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HANDBOOK FOR MANPOWER PLANNERS IN AFRICA

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HANDBOOK FOR MANPOWER PLANNERS IN AFRICA

CONTENTS

Page

INTRODUCTION

PART ONE: HUMAN RESOURCES AND THE DYNAMICS OF SOCIO-ECONOMIC TRANSFORMATION AND DEVELOPMENT IN AFRICA

CHAPTER ONE: Africa's Development Objectives and Strategies for Recovery and Development 1

- I The Central Problem 2
- II Structural Characteristics of the Socio Economic Environment 2
  - (i) Demographic Situation 2
  - (ii) The Socio-Economic Conditions 4
- III What are Africa's Long-Term Development Objectives and Priority Needs? 7
  - (i) In Search of a Development Strategy 7
  - (ii) Africa's Development Priorities 8
  - (iii) Major Policy Directions 9

CHAPTER TWO: Human Resources for Africa's Economic Recovery and Development 14

- I The Critical Issue 15
- II The Impact of Human Resources Management 15
  - (i) Planning Human Resources for Recovery and Development 15

Page

(ii) Human Resources Development for Recovery and Structural Change 19

(iii) Improving the Utilization of Human Resources for Recovery and Development 24

III Institutional Support 26

ANNEXES TO PART ONE

Some Suggested Measures for Improving Human Resources Management for Recovery and Development 30

PART TWO: MACRO-ECONOMICS FOUNDATION TO MANPOWER PLANNING

CHAPTER THREE: Conceptual Issues in Human Resources Development 39

I A Practical Problem to be Addressed 40

II Theoretical Arguments in Competing for Scarce Resources for Human Resources Development 41

A. Basic Needs Fulfilment as an Issue of Human Resources Development 41

1. Critical Issues for Consideration 41

2. The Argument 46

B. Human Capital Formation and Accumulation as an Issue of Human Resources Development 53

1. What is the Human Capital? 53

Page

2. In Which Way Can The Human Capital Argument be Used? 53

3. Theoretical Issues to be Mastered by the Manpower Planner on Human Capital Model 55

CHAPTER FOUR: Conceptual Issues on the General Nature and Dynamics of Labour 65

I Labour Economics and the Manpower Planner 66

II Towards Defining Labour as a Concept 66

The Type of Work Performed 67

A Function Performed for Returns 67

A Status in the Labour Market 68

As a Stabilization Factor 69

III Labour as a Distinguishable Production Factor 69

IV Labour Mobility and Turn-Over Rates 70

CHAPTER FIVE: Factors in the Study of Labour Supply 73

I Sources of Labour Supply 74

The Size of the Population 74

The Age Structure of the Population 74

The Labour Force Participation Rate 75

Job Search and Acceptance: Optimizing the Utility Function 75

II Labour Force Projection 76

III Determinants of Labour Supply 78

Page

Economic Forces in Labour Market Supply Side Analysis 78

Institutional Forces in Labour Market Supply Side Analysis 83

CHAPTER SIX: Factors in the Study of Labour Demand 85

I What is Involved? 86

II Economic Forces in Labour Market Demand Side Analysis 87

- Wage Variability in the Search-Offer-Model 87
- Marginal Labour Productivity 88
- Fiscal Measures 88

III Institutional Forces in Labour Market Demand Side Analysis 91

- Protective Labour Legislation 91
- Cartels 92

ANNEXES TO PART TWO

A Basic Notions of Cost Benefit Analysis 94

B Marginal Labour Productivity Analysis in the Determination of Labour Demand 111

C Some Problems of Public Sector Manpower Utilization in Africa: A Practical Note 121

Page

PART THREE: QUANTITATIVE ASPECTS OF MANPOWER PLANNING

CHAPTER SEVEN: **Types, Sources and Utility of Data and Information Required for Human Resources Planning and Programming** 133

I Knowing Your Data and Where to Find Them 134

II Why Do Manpower Planners Need Statistics? 134

III Areas of Interest to the Manpower Planner for which Data Would be Required 136

IV What are the Types of Required Data and Information? 138

V How Can the Data Be Used? 139

- Production Information 139
- Demographic Indicators 140
- Social Information 141
- Financial Information

VI Detailed Specification of the Required Data and Information 143

VII Where Can the Manpower Planner Find the Desired Information? 148

CHAPTER EIGHT: **Preparation and Conduct of Manpower Surveys** 152

I Scope and Rationality of a Manpower Survey 154

- What Does a Manpower Survey Entail? 154
- When is it Necessary to Undertake a Manpower Survey? 155

Page

II Characteristics of a Manpower Survey 156
- How Frequent Should a Manpower Survey Be? 156
- Which Form(s) should a Manpower Survey Take? 157
- Choosing From Among Alternatives 158

III What Are the Major Types of Manpower Surveys and What Use are They to the Manpower Planner? 159
- Labour Force Survey 159
- Establishment or Employment Survey 161
- Labour Market Survey 163
- Other Important Surveys 165

IV Activities that Must be Performed When Carrying out a Manpower Survey 166

A Survey Organization and Planning 166
- Selection and Specification of Subject Matter 167
- Development of the Survey Design and Structure 168

B Preparing for the Survey 169
- Designing the Sample 169
- Designing the Questionnaire 172
- Pretesting the Questionnaire 175
- Preparing Training and Instruction Manuals 177

C. Executing the Survey 178

Page

- Conducting the Survey 179
- Data Processing 182
- Publication of Survey Results 183

CHAPTER NINE: Manpower Planning Approaches and Techniques 185

I The Manpower Requirement Approach to Manpower Planning 187

A Manpower Forecasting Techniques: Some Issues for Consideration in the Application of the Approach 188

- Assumptions and the Reliability of the Forecast: A Problem Area 189
- Contribution of the Manpower Requirement Approach 190
- Types of Forecast 191
- Forecasting Period 191
- Distinction between Stock and Flows: The Problem of Replacement 192

B Manpower Projection Methods 193

- Projecting Demand 193
- Projecting Supply 197

C Skilled Manpower Demand Models: Some Illustrations 198

- Model Simulation 198
- Introducing the Replacement Factor into the Model: An Illustration of a Wastage-Model 204

II The Human Capital or Rate of Return Approach to Manpower Planning 207

Page

III Concluding Remarks and Suggested Adjustments 212

ANNEXES TO PART THREE

Population Data Requirements and Their Application in Manpower Planning 215

PART FOUR: HUMAN RESOURCES MANAGEMENT PLANNING AND PROGRAMMING: SOME BASIC POLICY AND INSTITUTIONAL ISSUES

CHAPTER TEN: Nature and Scope of Human Resource Management with Implications for Manpower Planners in Africa 229

I Why is the Management of Human Resources Necessary? 231

- Human Resource as a Sub-set of a Nation's Natural Resources 231
- Elements of Human Resource Management and Implications for the Manpower Planner 232

II The Role of the Manpower Planner in Human Resource Management 233

III What are Some of the Basic Human Resources Management Concepts and What Do They Mean? 234

- Human Resource
- Manpower or Human Resources 235
- Human Resource Planning 236
- Manpower Development and Utilization 237

Page

IV Human Resources Management in Africa: Problems and Prospects 240

- Summary of Major Issues on the Status of Human Resources Management in Africa 240
- Ideas for Consideration in Response to the Issues 241

V The Human Resources Management System 243

CHAPTER ELEVEN: Human Resources Policy Formulation and Policy Administration 245

I What should a Human Resources Policy Package Provide 246

- Is Policy Formulation Interrelated with Policy Administration 246
- What Role has the Manpower Planner 246

II Critical Factors and Policy Areas to be Taken into Account in the Formulation of Manpower Objectives, Goals and Policies 247

- Why is it Necessary to Elaborate on and Specify Goals and Objectives? 247
- What are the Critical Manpower Policy Areas 248

III What Should These Policy Elements Be? 248

- Manpower Planning and Programming 249
- Executing Human Resources Development 250
- Management of Employment and Labour Productivity Programmes 251

Page

IV Major Questions to be Considered by the Manpower Planner 252

V Actions Required to Ensure Acceptability and Implementation of Formulated Manpower Policies 253

- Techniques and Strategies Required for the Approval, Ratification, Release and Interpretation of the Approved Policies 254
- Actions and Procedures for Ensuing Implementation and Re-Appraisal of Formulated Policies 256

VI Concluding Remarks 259

CHAPTER TWELVE: Institutional Requirements for Comprehensive Human Resources Planning and Programming 261

I What is Involved? 263

II The Machinery and What is Expected of It 263

III Major Issues to Consider When Designing the Machinery 264

- Basic Issues Related to the Choice of Location and Productivity
- Where Should the Various Parts be Located? 266

IV What are the Linkages and Why are They Vital to the Process 267

- Intersectoral Linkages 267
- Internal Linkages Within the Subsystem 269

Page

V How do we Ensure Productivity and Efficiency of the Process? 271

VI Structure and Components of the Machinery 271

- Organ for Policy Guidance and Co-ordination 271
- Administrative Organ for Programme Formulation, Policy Determination and Policy Implementation 274

VII What are the Terms of Reference for the Human Resources Planning Personnel? 277

- For the Development and Management of Policy and Programmes 277
- For the Collection, Processing and Tabulation of Data and Other Information 279

VIII Taking a Closer Look 280

- Suggested Organizational Structure of a Central Human Resources Planning Organ (A Specimen) 280
- Activities of the Various Divisions and Sections 283

IX Staffing Requirements 294

- The Issue 294
- Staff Requirements by Functions to be Performed 295

X Conclusion and Some Discussion Questions 299

Page

ANNEX TO PART FOUR

Programmes Developed by ECA for Assisting Member States in Implementing Human Resources Planning, Development and Utilization in Africa **303**

LIST OF FIGURES

Page

Figures

7.1 **Factors Affecting Demand for Human Skills, Knowledge, Attitudes, Kinet and Efficiency** **137**

7.2 **Factors Affecting Supply of Human Skills, Knowledge, Attitudes, Kinet and Efficiency** **132**

12.1 **Intersectoral Linkages for Human Resources Planning and Programming** **268**

12.2 **Linkages of Human Resources and Programming Sub-System** **270**

12.3 **Organization Structure of a Central Human Resources Organ** **281**

12.4 **Organization Structure of the Policy and Programme Development Department** **282**

12.5 **Organization Structure of the Surveys and Information Department** **283**

INTRODUCTION

One of the adverse consequences of the economic crisis which has ravaged Africa during the decade of the 1980s has been an unjustifiable neglect of the need to effectively develop and utilize human resources for greater productivity. This situation has been severly aggravated by the structural adjustment programmes that have been pursued by the majority of African countries which emphasized monetary, fiscal and economic adjustment concerns rather than long-term balanced development. The effect of this has been reflected in depressed levels of investment in human resources and reduced employment levels.

Among the major actions taken by African governments during the last ten years to deal with the dilemma posed by the co-existence of an expanding labour force and a declining absorptive capacity of the labour market, has been the development of institutional capabilities towards improving the process of human resources planning, development and utilization. Few governments have established full ministries to co-ordinate the human resources management activities. Others have established inter-sectoral and sectoral organs to perform similar activities. At the policy making level, attempts have been made by nearly all governments to establish appropriate programme management and policy guidance organs.

These efforts have, however, been greatly constrained. In the first instance, most of the efforts made toward improving the process of human resources planning and programming fell short of the requirements for the effective management of the economy. Secondly, the region's policies, strategies, programmes and attitudes toward the development and utilization of its vast human resources potential for development have been, by and large, inappropriate as related to Africa's development needs and priorities. Thirdly, problems associated with data collection, processing and analysis have also constrained the effectiveness of these efforts.

Underlying these constraining factors, is the shortage of managerial, professional and technical staff to effectively undertake human resources planning and programming functions on a sustained and systematic basis. Of equal concern is the inability of existing manpower planners to adequately put forward to policy makers a case for mobilizing resources to be used in human resources programmes. As such, human resources management programmes are given lower priority despite their critical role in development management.

The need to fill the emergent gap is not only urgent, but is also one which is indispensible to the region's economic reform programmes and efforts to achieve sustained socio-economic development and transformation. This objective would require the effective mobilization, development, allocation and utilization of Africa's human resource base. These elements must be brought into play through effective human resources policies and plans and by adequately trained and motivated managerial, professional and technical staff and labour force.

One of the critical factors in the development of effective human resource capabilities is the training process. This Handbook for Manpower Planners is one in a series of training manuals put up by ECA to assist member States in their training programmes and in their effort to develop institutional and staffing capabilities for human resources planning and programming within the framework of development planning and programming. It is also to provide a set of training material for African human resources planners. In both cases, the Handbook has been designed to serve as a basis for discussions and dialogue between trainers and trainees and between human resources planners and other macro and sectoral planners.

The Handbook is divided into four parts, each containing inter-linked chapters. At the end of each part are annexes. While some of these are technical in nature, others do provide either status reviews or basic information on human resources planning and programming. They are mainly intended to re-inforce the text or provide a deeper understanding of the issues raised in the preceeding parts.

Part one gives a general overview of the nature, problems and prospects of human resources planning and programming in Africa, and how these relate to and impact on the region's socio-economic recovery and development strategies and programmes. It touches on major constraints and advances a number of measures that could be taken by African governments, individually or collectively, to ensure proper human resources planning, development and utilization for sustained socio-economic transformation and development. The aim is to focus attention on the situation with a view to stressing the need for and importance of human resources management in the process of development in Africa.

Part two reviews the macro-economic foundations upon which the techniques and concepts of manpower planning are built and linked to the production and distribution processes. It discusses a set of conceptual issues in relation to human resources development and utilization. It also analysis factors which could constrain or promote the supply of and demand for labour. The objective is to equip the manpower planner with a set of logical arguments when discussing with other planners matters related to resource mobilization and allocation for human resources development and utilization programmes.

Part three deals with the quantitative aspects of manpower planning. The types and sources of data required for manpower planning are identified. Approaches used, particularly the survey approach, in obtaining data are extensively covered. These are aimed at showing the complexities of manpower planning and the need to develop and maintain a human resources data bank and information system. They are also aimed at enhancing the technical knowledge and skills of the manpower planner in data gathering, data analysis and manpower requirement forecasting.

Part four takes a comprehensive look at the process and outcome of human resources planning and programming. It reviews basic issues with regard to the need for and the development of institutional and staffing capacities to effectively undertake human resources planning and programming. Also reviewed are basic issues related to the formulation and administration of human resources policies within the framework of national development policies and strategies. The aim is to put into perspective issues raised in the first three parts, and to provide a specimen for the development of institutional capabilities and policy options.

As the material presented are of a general nature, the Handbook needs to be read alongside other available publications. Regarding the Handbook itself, it could be used as both a reference manual or a training manual.

A number of discussion and assignment questions are placed at relevant sections. These could be particularly useful during training workshops. "Discussion questions" are to be considered not only within the context of the material presented in the Handbook, but also within the context of the individual's experiences and existing literature on that particular issue. Group or individual written assignments could be requested to respond to the "assignment questions." The trainer could develop additional discussion and assignment questions as may seem fit.

Needless to state that the major limitation of the Handbook lies in its general treatment of the issues. The literature is vast and human resources planning and programming methodologies are still evolving. Indeed, implied is the assumption that a majority of the users are already familiar with the literature. Having said this, any comments on and/or contributions to the Handbook are therefore, welcome.

PART ONE

HUMAN RESOURCES AND THE DYNAMICS OF SOCIO-ECONOMIC TRANSFORMATION AND DEVELOPMENT IN AFRICA

CHAPTER ONE

AFRICA'S DEVELOPMENT OBJECTIVES AND STRATEGIES FOR RECOVERY AND DEVELOPMENT

OBJECTIVE

To meaningfully undertake human resources planning and programming, the Manpower Planner will have to know the socio-economic development context within which the planning and programming process is to be done. In other words, human resources development and utilization objectives, policies, strategies and programmes will have to be geared towards and supportive of overall national development objectives, policies, strategies and programmes.

The objective of this Chapter therefore, is to give an overview of existing demographic and socio-economic conditions in Africa and Africa's recovery and long-term development objectives and strategies in response to these conditions. It is aimed at providing a framework and the required focus for human resources planning and programming activities.

After going through this Chapter, the Manpower Planner would be able to:

- **clearly define the ultimate objective of human resources planning and programming;**
- **articulate his/her role in the realization of national development objectives;**
- **link the processes of human resources planning and programming with those for national development planning and programming;**
- **participate more effectively in working group meetings during the preparation, implementation and evaluation of national, subregional and regional recovery and development plans.**

AFRICA'S DEVELOPMENT OBJECTIVES AND STRATEGIES FOR RECOVERY AND DEVELOPMENT

I. THE CENTRAL PROBLEM

The central issues surrounding Africa's development can be summed up as the existence of structural imbalances; wide-spread low-level productivity of the African economies; heavy dependence of domestic production on imported intermediate inputs; failure to diversify into new types of exports; and the absence of domestic linkages in the production and distribution systems.

At the turn of the 1980's these problems had reached high proportion. The agriculture sector was severely hit by drought, desertification and low productivity leading to major food shortfall and a great dependence of food aid. The industrial sector reached an undesirable state of decay by mid-1980 due primarily to the slow pace of investment flow; a rapid depreciation of existing capital goods and infrastructure; and the lack of adequate African entrepreneurs and skilled and managerial manpower. The social sector reached its own crisis point. Imbalances had developed between the number and types of available jobs and job seekers; between population growth and resource accumulation and distribution; and between urban and rural incomes, social norms, consumption baskets and production patterns.

II. STRUCTURAL CHARACTERISTICS OF THE SOCIO-ECONOMIC ENVIRONMENT

(i) Demographic Situation

Variables such as population size, structure, growth rates, fertility, mortality, distribution and movements are central to the formulation and implementation of policies and programmes for socio-economic development. These variables are also if not more so, central to the process of human resources development, allocation and utilization and should therefore be of interest to the Manpower Planner.

Africa's total population, which was estimated at about 224 million in 1950, is now estimated to reach 628 million by the turn of the century. Of significance, is the dramatic increase in the growth rate of the population. Currently, it averages around 3.3 per cent as compared with a moderate 2.2 per cent in 1950. There is little evidence that the present rate would drop significantly in the next decade. This could mean that at existing level, the African population size could double to reach about 1.26 billion by the year 2010. Along with this expansion are some serious socio-economic problems such as food scarcity, ecological degradation, excessively large labour force and inadequacies in health, education and housing.

Another point worth mentioning is the youthfulness of the population At least 45 per cent of the total population is between ages 0-14 with the medium age being around 17 years compared with 21 years in other less developed regions. This uneven age distribution has at least three consequencies that have implications for human resources planning and programming. First, the dependency ratio of 93 per cent and its burden on the working few are not only great, but also limit the working population productive and investment capacities. Secondly, the large young population places very high demands on educational, medical and other social services. For instance, 3 per cent growth in the school age population would require at least a doubling of school facilities every 20 years just to maintain present enrolment rates. Thirdly, large cohorts of graduate and school leavers enter the labour force each year who cannot be readily absorbed in the labour market, and for whom policies must be found to minimize educated unemployment.

Changes in the size and structure of the population are heavily influenced by the inter-play of changes in fertility and mortality rates. Fertility in Africa has been the highest in the world since 1950. It is presently registering an estimated 45 per cent crude birth rate (i.e. the number of births per 1000 persons) which is three time that of the more developed regions. Mortality on the other hand, though still the highest in the world, fell. The crude death rate fell dramatically by about 45 per cent from 27 in 1950-1955 to the present estimates of 15. Infant mortality, which was estimated at 87 per 1,000 births between 1950-1955 now stands at 106 per 1,000 births and is expected to decline to 88 by the turn of the century. Life expectancy in Africa increased from 38 years between 1950-1955 to 52 years by mid 1989 and is expected to reach 56 years between 1995-2000.

Of the total population in Africa, 77 per cent lived in rural areas in 1970, decreasing to 70 per cent by 1980. It is estimated that this would respectively fall to about 67 per cent by 1990 and 61 per cent by the year 2000. This denotes an expanding urbanization rate over the years within the region with far reaching implications for human resources allocation and utilization particularly given the imbalances existing between population and resource distribution.

(ii) The Socio-Economic Conditions

The inadequacies of past development policies in Africa with their built-in social inequities and the pressures of recession, debt and drought gave rise to an extremely difficult socio-economic situation throughout the 1980s. Almost every major indicator of socio-economic welbeing has registered a highly disturbing and/or declining trend since the beginning of the 1980s. This state of affairs has mainly manifested itself in sharp falls in living standards, employment levels, health and educational standards, all of which are of great interest to the Manpower Planner.

By 1987-1988, poverty had become widespread in both the urban and rural areas of the region affecting between 50 and 75 per cent of the population. Many households and individuals were unable to meet their basic food needs. This was due mainly to the severe declines in incomes. Until recently, there was negative growth in GDP in sub-Saharan Africa and only a modest growth in North Africa. The region's per capita income declined at an annual average rate of about 3.4 per cent between 1980 and 1986. Simultaneously, real wages fell even more sharply at an average of 19 per cent in the same period. Hidden in these global aggregates is a highly skewed pattern of income distribution which favours a minority of less than 30 per cent of the population living mainly in urban areas. Under such circumstances, nearly all classes of salaried workers and wage earners find themselves undertaking secondary activities or engaging in corruption in order to make ends meet.

Not only did the quality of employment and services deteriorate but the quantum of productive employment also declined in the 1980s. Though total employment was estimated to have increased by 2.0 per cent per year in the 1970s, it declined by some 16 per cent between 1980 and 1987. The agriculture sector which employed over two-thirds of the labour force in most of Africa, is in serious decline. Industry has yet to be re-oriented towards employment generation strategies. More so, the informal sector's employment absorptive capacity has been greatly constrained by marginalization of and low productivity within that sector.

These notwithstanding, the economic crisis of the 1980s and the resulting Orthodox structural adjustment programmes not only forced a reduction in development investment and, therefore, employment opportunities; but they also resulted in employment freezes and widespread retrenchment of workers. Thus, the African region lost an estimated 1.5 million new permanent jobs per year from 1985 to 1987 and had to cope with some 3 million redundancies. Admittedly, the retrenchment exercises in many countries were necessary to tackle a long-standing problem of overgrown public services filled with inefficient or ghost employees. However, this problem could have been solved effectively only by carefully planned measures of layoff and re-absorption a task which is to be performed by the Manpower Planner. Otherwise, the social consequences could be disastrous as there is a growing crisis of open and disguised unemployment. With the labour force in Sub-Saharan Africa growing at a rate of 2.7 per cent per year, 22 million persons or 40 per cent of the labour force were estimated to be unemployed in 1985. Those considered underemployed, mostly in rural areas, were estimated at 95 million in 1985.

Available data reveal the alarming situation of youth unemployment. Although the population between 15 and 24 years constitutes only 30 per cent of the total population, it accounted for 65 to 75 per cent of the unemployed by 1987. Growing numbers of women are also facing unemployment in the formal sector. Educated unemployment is yet another feature of the current unemployment situation and it reflects nearly three decades or imbalance between the output of the educational systems and manpower demand in Africa. By 1987 there were some 4 to 5 million jobless educated persons in the region. Paradoxically, several countries with high graduate unemployment employed large numbers of expensive expatriate manpower in many sectors of their economies. In 1988, it was estimated that some 80,000 expatriate technical assistance personnel worked in the public and parastatal sectors of 40 Sub-Saharan African countries at a cost of at least US$4 billion. Such contradictory trends clearly reflect poor human resources development and utilization planning. The effects on the morale and motivation of qualified and experienced Africans have been disastrous and have fuelled the brain drain which might have reached 30,000 in the period of 1984-1987 alone.

The development of healthy human beings is an important factor in economic growth and development. In the 1960s and 1970s, African countries made considerable progress in the development of health facilities and programmes. The pace and quality of the services were however seriously affected by the fundamental socio-economic distortions manifested in mass poverty, illiteracy and inequitable distribution of development benefits. The upsurge and prevalence of childhood killer or disabling diseases and cholera in the 1980s have also dampened earlier progress in health development. Needless to say that the socio-economic impact of this disturbing picture are repeated suffering, incapacity, loss of energy, vitality and productivity.

Health-care resources and facilities in nearly all African countries are inadequate generally. Essential drugs are often inadequately supplied within country. Equipment and logistical support are poor, and income levels and the distribution of medical and health personnel and services are far from being adequate. Where the indicators show an upward trend, great shortfalls still exist in the light of the fast-growing population and poor distribution patterns. A rethinking over the orientation of health services provided within the region would be needed. Health care is strongly urban biased, hospital-based, capital intensive and dependant on expensively trained and highly skilled personnel, absorbing well over 60 per cent of the total health budget.

Like in the area of health development, much efforts at developing the educational system in Africa have been made over the years. Governments have invested heavily in education spending an average of 20-30 per cent of their national budgets on that sector. However, during the 1980s, a combination of increased school-age population, economic crisis and structural adjustment practices put a brake on the momentum of educational expansion that had begun in the 1960s and 1970s. By 1985, regional per capital expenditure for education fell to US$28 wiping out the gains between 1975 and 1980 when it rose from US$18 to US$41. The most severe cuts were in capital expenditures with other major cuts in recurrent expenditure for books, teaching aids, stationery, repair and maintenance. As a result, the percentage of primary school enrolment declined from 80 per cent in 1980 to 77.6 per cent in 1986; the secondary enrolment level which had increased by 50 per cent in the 1970s rose only from 19 per cent in 1980 to 20.7 per cent in 1986 and the tertiary level declined from 1.7 to 1.6 per cent in the same years.

There is a serious threat of human wastage through non-attendance at school, premature curtailment of training and poor quality education due to poor infrastructure and resources. The wastage is seen most at the primary school level and among the poor and vulnerable social groups. In most countries more than 40 per cent of children at school going age were not attending school in 1983-1984. Of those who attended the primary level, as few as 10 per cent got to the secondary level and of those not more than 1 per cent entered university. Apart from these issues, fundamental problems of structure and content still plague the educational systems. Schools and educational facilities are concentrated in the urban areas; there is a high foreign content and orientation in many curricula in the formal and non-formal sectors which make them irrelevant. Quite importantly, there is not sufficient emphasis on scientific and technical training which is so crucial for the mastery of the harsh African environment. More human wastage is perpetrated in the continuing preference for boys over girls in education, which ignores the demographic strength and important position of women in Africa's social and economic development. Imbalances, social inequality and the poor match between the output of the educational system and the demand of the African labour market have contributed not only to the continent's underdevelopment but also to social frustration and poverty.

III. WHAT ARE AFRICA'S LONG-TERM DEVELOPMENT OBJECTIVES AND PRIORITY NEEDS?

(i) In Search of a Development Strategy

Africa's search for an independent way forward towards making the region more viable economically has become indispensible. As it were, this search began with the advent of political independence. It intensified as a collective effort over a decade ago. In 1979, African development scientists discussed the matter and focused Africa's development prospects and economic growth up to the year 2000 during the Monrovia Colloquim.

A significant outcome of the discussion was the Monrovia Declaration and Commitment which among other things, had laid down the two basic development foundations of "self-reliance" and "self-sustainment" as Africa's long-term strategy towards economic independence. The momentum of the search was put at blaze in Lagos in 1980 when African Heads of State and Government collectively defined a set of concrete action-oriented sectoral and inter-sectoral development proposals and strategies. Of significance, was the Lagos Plan of Action (LPA) complimented by the Final Act of Lagos (FAL). These elaborated on the required national and collective actions to be taken by Africa so as to alleviate mass poverty and improve the living standards of the African peoples.

By 1984, and in the wake of the severe economic and social crisis which had engulfed the region, African governments directed the search towards finding short and medium-term strategies. This led to the adoption of the Africa's Priority Programme for Economic Recovery 1986-1990 (APPER). A corresponding commitment was drawn up in the Africa's Submission to the Special Session of the United Nations General Assembly on Africa's Economic and Social Crisis which was subsequently fed into the United Nations Programme of Action for African Economic Recovery and Development, 1986-1990 (UN-PAAERD). The search took on an added dimension when the human implications of the short and medium-term priorities and strategies were brought to the forefront by the Khartoum Declaration and subsequently broadened in the African Alternative Framework to Structural Adjustment Programmes for Socio-Economic Recovery and Transformation adopted in 1989 by African Ministers of Finance and Development.

(ii) Africa's Development Priorities

Through the search, African governments have prioritized Africa's development needs as: (a) improvement in food and agriculture production and security; (b) development of other sectors in support of the agricultural sector (i.e. industry, science and technology, transport, communications, trade and finance); (c)adequate response to and minimization of the effects of drought and desertification; and (d) human resources development.

Specific actions and commitments towards these goals were drawn up. At national levels, effective early warning systems and national food security arrangements are to be established. An estimated total investments of at least US$57.4 billion would be allocated to develop the food and agriculture sector by the year 1990. Worn out and iddled agro-based industries would need to be rehabilitated and new ones developed. Afforestation and re-afforestation programmes will be put in place, water resources developed, common eco-systems protected and alternative sources of energy to replace fuel wood found. Public management systems would be improved upon and comprehensive policies aimed at better planning, developing and utilizing human resources adopted. These national efforts are to be complemented by a favourable international economic and debt management environment and an improved international and regional co-operation.

As pointed out by the ECA, ensuring these implies the existence of an effective organization which in turn, would require the availability and involvement of development-oriented leadership; a process of development-oriented administration; a development-conscious society; and greater co-operation between institutions, individuals and society. It also calls for Africa's ability to effectively manage available and potential resources which, in the final analysis, would depend upon the knowledge, skills and attitudes of those who formulate and appraise policies, those who approve and enact the policies and those who execute the elements of the policies.

Discussion Question:

What are the human resources planning and programming issues that are associated with these two preconditions (i.e. the existence of an effective organization and Africa's ability to effectively manage available and potential resources)?

(iii) Major Policy Directions

African Ministers of Finance and Development Planning have charted out in clear terms the major policy directions for Africa during the next decade. Taken into account is the need to address fully existing structural bottlenecks in African economies. The following are the major policy directions as charted out (AAF-SAP; E/ECA/CM.15/6/Rev.3):

1. Strengthening and diversifying Africa's production capacity

   (a) Enhanced production and efficient resource use: This involves mainly the systematic avoidance of constraining productive capacity for the mere purpose of achieving financial balances. In other words, in as much as the resources involved can be allocated an utilized efficiently and productively, the logic of always having to balance the budget at the expense of growth and production must be resisted. Such productive and efficient use of resources would, in itself, involve a policy change to bring about significant shifts towards the production possibility curve and increasing returns to investment.

   (b) Greater and more efficient domestic resource mobilization: It must be recognized that, at present, there are too many financial leakages - fiscal, monetary, external payments, capital flight, etc. - all of which need to be plugged in order to enhance resource mobilization for investment and budgetary expansion.

This is all the more important in view of the uncertainties surrounding the quantum of external resource flows to Africa and the increasingly stiff conditionalities attached to such inflows. Given the existing international economic environment, there is little hope of adequate resource inflows being available to all African countries on a sustainable basis for adjustment and transformation. Even if such resources could be attracted, it is almost certain that the terms and conditions on which they would be made available would be such as to offer mere temporary relief to the African countries and serve more to aggravate and deepen their structural problems and deficiencies.

(c) Improving human resources capacity: One important aspect of this policy direction is that reductions in budget deficits must not be accomplished at the expense of expenditures on the social sector, i.e., education, health and other social infrastructure, including the maintenance of law and order, which are prerequisites of an enabling environment. Recognition of the paucity of human capital as a limiting factor on the enabling environment for transformation in Africa and of the relative neglect of the sector during the 1980s dictate that efforts must be made to ensure that an annual average of at least 30 per cent of total government outlays is devoted to the social sector and that, in any case, the annual rate of growth of social investment is significantly higher than the population growth rate.

(d) Strengthening scientific and technological base: The medium- and long-term perspectives of structural transformation require an adequate scientific and technological base essential for transforming national raw materials in the form of agricultural products, minerals, forestry and aquatic resources into consumable goods and services both for local and export markets. The strategy for achieving these objectives and the main issues involved are: (i) having a Chapter in national socio-economic plans on science and technology policies which reflect the role, development and application of science and technology essential for meeting the socio-economic needs of the people; (ii) enhancement of endogenous capacity to deal with the development and application of science and technology by strengthening the scientific and technological infrastructures, by establishing a technologically-focused educational system, by improving the quality of manpower training, by linking production with indigeneous research efforts, and by having appropriate personnel and mechanisms for commercializing the results of research undertaken in universities and research institutes; (iii) finding alternatives to the export of raw materials by the development of new products and processes, and enssuring the competitiveness of African products in view of the advent of new and emerging science and technology which has a direct impact on African products and raw materials and the bio-engineered products that are supplanting Africa's basic products on the world market and affecting adversely their competitive base; and (iv) the development of an endogenous capacity of a harmo nized sub-regional and regional policy that will enable the implementation of joint multinational projects and the optimization of available scarce resources.

(e) **Vertical and horizontal diversification:** The first crucial dimension of diversification is that of producing essential goods and services to meet the needs of the majority of the population in all sectors. The second dimension of diversification relates to the need to lessen mono-culture export dependence and its associated instability in terms of earnings. This would necessitate export re-orientation, involving the widening of the existing narrow range of exports and export markets to include an increasing share of processed commodities and manufactured goods, and refocussing on African markets.

2. Improving the level of income and the pattern of its distribution

(a) **Establishing a pragmatic balance between the public and private sectors:** In determining such balance, the main criteria should be the availability of local entrepreneurial capability and the optimum social and economic rates of return on investment. It should, however, be noted that there are areas such as the building of the physical, human and institutional infrastructure, environmental protection and conservation as well as the provision of essential services in which the public sector has a role to play, especially given the present level of development in African countries. But where the State has over-extended itself, particularly in non-social service and non-strategic sectors, selective privatization should be considered.

(b) Creating an enabling environment for sustainable development: This policy direction includes a number of important factors among which are broad participation in decision-making, consensus building, maintenance of equity and justice, elimination of civil strife and instability, facilitation of access to opportunities for all, and creating a favourable investment climate. The enabling environment should incorporate the issue of encouraging entrepreneurship and the effective contribution of the private sector and grassroot initiatives to the development process through consistent policies and appropriate incentives.

(c) Shifting of resources: This policy direction should aim at minimizing non-productive expenditures. In Africa, where needs are greatest, social priorities have increasingly taken a second place to say defence spending. The significance of budgetary disparities between pulbic welfare and defence is illustrated by estimates which show that, in the mid-198Os, developing Africa spent less public resources on education than on the military, in contrast to Latin America where expenditure on education is double that of defence. The military-social imbalance is further reflected in the fact that, in Africa, annual public expenditures on health have, on average, accounted for less than a third of military outlays. It is not difficult to imagine what it would mean to social welfare in Africa, with all its positive multiplier effects, if a saving can be achieved in defence spending and in non-productive expenditures. It is of course understood that for African countries facing unabated external aggression and destabilization, this policy direction may be difficult to pursue until the external destabilizing forces are removed.

(d) Improvements in the pattern of income distribution among different socio-economic categories of households: This constitutes an important element of adjustment with transformation as it has direct impact on the size of domestic markets for domestic products and the alleviation of mass poverty. It should be reiterated that to pursue this policy direction also entails ensuring that, in the generation of output, the poor and the disadvantaged will have increased access to the means of production, especially land.

3. Pattern of expenditure for the satisfaction of needs

(a) **Food self-sufficiency:** In this regard, policy emphasis will have to be put on achieving a proper balance between the food subsector and the production of agricultural export commodities. This will have to necessarily reverse the present trends of adopting policies that tend, especially in terms of price incentives, to create a bias against the food subsector and to favour the production of export commodities.

(b) **Lessening import dependence:** In order to ensure a sustained and sustainable satisfaction of the critical needs of the population, it is necessary to move away from the present situation whereby most of the essential needs, intermediate inputs and capital goods in African countries are generally satisfied from imports.

(c) **Re-alignment of consumption patterns with production patterns:** This will call for a change in consumption habits so that the people will start to consume more of what is domestically produced, especially in the areas of food, clothing, housing and other essential necessities. It is important also that the opportunities for exchange and trade in basic food staples and in other essential goods be widened both at national and sub-regional levels, with a view to enhancing national and sub-regional collective self-reliance.

(d) **Managing debt and debt-servicing:** In order to release the scarce and badly needed foreign exchange resources, it is necessary to establish strong debt management systems. This would involve, *inter alia*, a continuous assessment of payment capacity in the short- and long-term. It would also have to entail the rationalization of debt accumulation by concentrating future external loan resources on productive projects that have quick and high returns with substantial foreign exchange component.

Discussion Question:

Why should the Manpower Planner have an understanding of these policy directions and at what stage of his/her work do they become vital?

CHAPTER TWO

HUMAN RESOURCES FOR AFRICA'S ECONOMIC RECOVERY AND DEVELOPMENT

OBJECTIVE

One of the priority areas for Africa's economic recovery and development is the planning, development and utilization of the region's human resources. While this is a priority within itself, it is the area which, when properly addressed, would determine the extent to which the other three priority areas namely: agriculture, sectors in support of agriculture, and drought and desertification, would be developed. The objective of this chapter therefore, is to give an overview of the role to be played by the human factor in the economic recovery and development of Africa.

After going through the chapter, the Manpower Planner would be able to:

- **discuss the impact of human resources management on Africa's recovery and development process;**
- **discuss a set of policy options that could be considered by African governments individually and collectively to strengthen their capabilities for human resources planning and programming;**
- **single out the main pressures and constraints on the planning, development and utilization of human resources;**
- **discuss the results of recent human resources management policy changes on employment, education, skilled-manpower supply, the brain drain and workers' productivity;**

HUMAN RESOURCES FOR AFRICA'S ECONOMIC RECOVERY AND DEVELOPMENT

I. THE CRITICAL ISSUE

African governments have taken full responsibility for ensuring that economic rehabilitation and recovery are achieved. APPER asserts that "it is first and foremost incumbent upon Africa itself to define conditions and assume direct responsibility for the rehabilitation of its economy". That responsibility must be assumed by men and women with ability, vision, sense of purpose, determination and ingenuity — in short, Africa's own human resources. It is those resources that must conceive and formulate recovery and development policies that would conduce to the success of APPER and UNPAAERD. It is these same resources that would take on the responsibility for seeing to the day-to-day implementation of the programmes. On their shoulders lies the burden of planning strategies for reaching goals and targets. They must decide on resource mobilization and use, set priorities among priorities and make the right investment choices. They constitute the human infrastructure without which no objective of the recovery programmes can ever be attained. There may be an abundance of other resources - natural, physical, capital - but without human resources in the right quantum and of the right types, to transform and give value to the other resources available, recovery and development will remain a moot question. Africa's human resources are the main catalysts on whom the African people must pin their hopes for social transformation and for self-reliant and self-sustained development.

II. THE IMPACT OF HUMAN RESOURCES MANAGEMENT

(i) Planning Human Resources for Recovery and Development

Underdevelopment denotes the lack of or inadequate capability of a society to fully meet all its material, social, economic and psychic needs. That capability may be strengthened through the development of social institutions, the building of communal wealth through appropriate economic interventions, the quest for social, political and religious equilibrium, the promotion of positive societal norms and the inculcation of positive attitudes and the promotion of life-styles that enhance socio-political cohesion and foster endogenous socio-economic development. Wherever the bottleneck to development may be located, human resources are the only instruments that can have them removed. Skills and knowledge can be applied to manipulate other resources to produce goods, services and wealth. Social cohesion and stability depend on the attitudes of the members of a given society towards the common good. These skills, knowledge and attitudes are acquired through a process of lifelong education which begins from birth and continues through one's lifetime, informally, non-formally and for a furtunate few, formally.

When an underdeveloped society is confronted with a national emergency which threatens its very survival, as was the case in Africa in the recent past, the message to that society is that its capabilities to master its surrounding environment - political, social, economic and physical - may be crumbling. Its topmost priority, once that message is well received and understood, is to strengthen its capabilities as a guarantee against annihilation. But these capabilities are not provided by new found wealth, or massive external resource flows or vast reservoirs of natural resources or huge public institutions and physical infrastructures per se, but rather by the internal capabilities available to utilize them and make them more productive. This requires that people in these societies be able to produce capital and technology, exploit, process and utilize their natural resource base to their collective advantage, transform their physical environment to a haven for survival and development, manage social, economic, political and cultural change so that they produce benefits rather than costs, have built-in mechanisms for ensuring a continuous growth of knowledge and for regenerating social norms and values. These capabilities are found only in man. When they are sufficiently highly developed, they become "resources" - human resources; but left underdeveloped, they are nothing but liabilities to a society's development prospects.

Given the unique situation of disadvantage in which Africa finds itself, the build-up of capabilities for survival and development is without doubt a most urgent priority. And because of the crisis and the subsequent adjustments being pursued within the continent and their effects on resource allocation, particularly to the social sectors including human resources development systems, alternatives must be found to ensure that the capabilities required for recovery and development are developed among Africa's people. This is where the planning of human resources assumes a primordial role.

It has been demonstrated on many occasions in the past that the human resources base for Africa is far too weak to sustain socio-economic development. There are far too few experts in science and technology and even fewer researchers involved in scientific and industrial R & D. Not enough specialist exist to take on the task of mechanization and modernization of African agriculture; the manufacturing sector is still too dependent on non-Africans for its operation and management and for the provision to it of production inputs and spare parts. The same goes for the region's education systems which rely quite heavily on expatriate personnel and depend to a fairly large extent on outsiders for the provision of training and education to a high percentage of its middle- and high-level manpower.

Human resources planning systems in Africa must urgently address this twin challenge: first to broaden and deepen the human resources base and second to chart out strategies for doing so with cost effectiveness and locally. This is even more urgent in view of the short time-frame set for recovery and the time lag to be anticipated before the desired results begin appearing.

The human resources planning function must also set its own set of priorities, based on a strong grasp of the present and future situation regarding manpower demand and supply and their implications for the recovery and development prospects of African countries. Planners may wish first, to grapple with problems such as the flight of skills from their economies in order to determine the factors that cause this situation and with a view to arresting any further deteriorations. Many African public services have acknowledged a certain amount of redundancy among their staff and have proceeded with programmes of retrenchment. Human resources planning systems could intervene to assist in working out a programme of redeployment, retraining or recycling so that the skills being done away with are not left idle, but are made to contribute to the recovery effort and to the generation of incomes for the many affected households.

Human resources planning should also have as a priority, strategies for increasing the productivity of the worker, not only in the formal sector of the economy but also in the informal sector and especially in the agricultural sector. In the formal sector interventions are called for to upgrade the skills of middle- and high-level managers so that development resources and processes are managed with greater efficiency. Technical and scientific workers should be trained to handle production resources with greater care so as to maximize the efficiency of these resources and contribute more to the production of goods and the provision of services. Public sector managers ought to be made more development-conscious so that they are more effective as facilitators rather than be unwitting obstacles in the development process.

Informal sector workers can for the short-term needs of recovery serve as most effective agents in the provision of goods and services to the agricultural sector. Human resources planning systems should, therefore, define a role for them in the implementation of recovery programmes in agriculture and those sectors supportive of agriculture. Workers in this sector could be brought in to provide some of the inputs required for the rehabilitation of agriculture e.g. tools, implements and equipment, as well as services required for the many civil and engineering works projects that would need to be implemented. Human resources planning systems have a major role to play in this regard.

The supply of skilled manpower to agriculture is of fundamental importance for Africa's human resources planning systems, given that the transformation of African agriculture must, of necessity, be skills-induced. The past neglect of planning manpower for this sector is, in part, responsible for the disastrous performance of African agriculture. This sector, more than any other, requires an infusion of skilled manpower to bring the weight of modern techniques to bear on the productivity of African agriculture and to prepare the ground work for innovations to take root and have an effect on production. Apart from upgrading skills among the direct producers, a long-term plan is required to provide the infrastructure that would give effective scientific and technological backing to the efforts of producers: agronomists, soil scientists, veterinarians, hydrologists, meteoroligsts, rural technologists, community change agents etc., will all have to be produced in sufficient numbers to support self-sustainment in agricultural growth and ensure that all the efforts at recovery, if successful, do not fade away.

Discussion Question:

An immediate need which each African government should urgently meet is the assessment of the manpower requirements for the implementation of their national recovery programmes. What, for example, are the manpower requirements for combating drought and controlling desertification in the Sahel? Are there any implications for training and skills development, of the programmes designed to harness and develop water resources? What would programmes for the installation of early warning systems demand, by way of the provision of skilled manpower, from human resources planning systems?

(ii) Human Resources Development for Recovery and Structural Change

The onus for the acquisition and development of skills in Africa is on the region's human resources development systems. Education, training and staff development systems like all other agents in the society and the African economy will have to change in response to the priorities dictated by the crisis and the recovery measures being pursued. That reforms must be made in Africa's human resources development systems is a point that is not in dispute. Rather, the divergence of opinion is centred more on the question as to what directions these reforms should take and for what purpose.

The medium-term needs for recovery require that significant investments be made at all levels of education. The need for increasing agricultural productivity calls for the expansion of basic education and literacy training to improve the farmer's functional literacy and numeracy skills and to step-up the fight against illiteracy and ignorance. The expansion of primary education is also required to speed up the attainment of, at least, these objectives. Third-level education must also be strengthened to enable it respond to the region's middle- and high-level manpower needs in agriculture, industry, mining, science and technology, transport and communications, banking, management and the education sector itself. For third-level education to effectively respond to these needs, it should have the requisite support at the second level of education which prepares students for the higher education sector.

The answer, therefore, to the problem of the crisis and the need for rapid recovery does not lie in starving the education sector of resources. Such a policy would obviously be counter-productive since it would result in stunting the growth of the very resources that should bring about recovery and development. Rather, African governments should explore the possiblities of activating new sources of revenue generation for the education sector such as unleashing the income-generation potentials which educational institutions may have; sealing off the many sources of foreign exchange leakage in the education sector; strengthening internal capabilities so that a larger measure of self-reliance in education is attained; improving educational management capabilities so as to optimize the utilization of resources, space and time.

Education for recovery and development demands of African governments four things: (i) increased investments; (ii) the search for relevance to needs; (iii) the rapid multiplication of knowledge and skills; and (iv) a change of attitudes to society and work.

The challenge of survival dictates that knowledge and skills be expanded fast to enable a larger proportion of Africans to have the capability to regain control over their environment. This would cost more, not less, money. It is true that governments would not be able to mobilize the amounts required especially if they were to rely on the traditional sources. Therefore, they must explore new sources of revenue generation such as levying an education tax on business enterprises; reducing their reliance on expensive expatriate personnel in favour of less expensive indigenous ones; increasing self-reliance in the production of textbooks and teaching aids and equipment so as to reduce the demands on foreign exchange resources for imports and at the same time stimulate income generation locally. Educational institutions could themselves be encouraged to be semi-self-financing by engaging in farm and industrial production and service-rendering activities, profits from which could be ploughed back into the development of programmes, structures and infrastructures.

The search for relevance is the second challenge to education in Africa. Perhaps the charge that African education is too expensive could be justified against the large number of youth who go through parts of or the entire educational hierarchy only to discover when they leave to enter the world of work that they do not possess the skills and knowledge required by employers. African education systems and curricula have not adequately responded to needs for the development of agriculture, industry, science and technology, etc. Liberal education is what prevails, having changed little from colonial times. Yet society and its needs have changed, placing much less of a premium on a man with qualifications in the liberal arts, in favour of qualified people with scientific and technical skills. Vigourous efforts must, therefore, be made to develop curricula and align them with Africa's objective needs for socio-economic and technological transformation. In the process it may be necessary to do away with the concern for - if not the obsession with - the need to maintain "international" equivalency and recognition. Curricula change must be guided only by the need for the African to acquire only the knowledge and learn only those skills that would serve him and his society.

The third challenge to education in Africa is the search for appropriate and workable strategies for multiplying skills for recovery and development. How can the millions of peasant producers and pastoralists be made literate so that they become more productive workers? How can the thousands of rural change agents be produced to help rural communities solve their problems of malnutrition, high morbidity, high infant mortality, endemic diseases etc.? How can the practice of traditional medicine be integrated with modern health care services? How fast can the water resources and desertification control experts be produced to arrest the spread of deserts, reverse the degradation of the African environment and preserve Africa's forests? How soon can the veterinary technicians be formed to begin attacking the many diseases that plague Africa's livestock resoruces? These are a few of the questions which educational systems in Africa must address if they seriously intend to contribute to the continent's recovery.

When it comes to questions of middle- and high-level manpower development, African governments must review present strategies of producing them. They would have to consider whether it is more viable or even more desirable for each country to attempt to provide all the higher education facilities required to produce its middle- and high-level manpower, or whether the burden for doing so would be considerably eased if the task were shared among groups of countries on a sub-regional or regional basis. They would have to review policies that promote among African students, a preference for degrees and diplomas acquired outside Africa, the consequent heavy outflow of students, particularly to countries of the North and the implications of this for relevance in the application of skills acquired externally to the solution of problems which are probably unique to Africa. Governments of the region would, therefore, have to search for ways of expanding educational opportunities at the middle and higher levels to accommodate most of those who would otherwise turn elsewhere to look for those opportunities. They should also look for collective approaches to strategies for increasing post-graduate educational opportunities within the continent, particularly in the sciences, agriculture, medicine, engineering and technology, in order to obviate the need for increasing numbers of Africans to migrate - in some cases, permanently - in search of these opportunities.

The final challenge to African education is the development of positive attitudes towards the common good. The economic decline has been accompanied by a moral decline and a certain amount of dissary in the African's value systems, particularly in the urban areas. Mismanagement and misapplication of public resources have been rampant in many African countries. Robberies, theft, vandalism, assault, drug abuse, alchoholism, prostitution, etc. have increased dramatically in many African cities. Such social disequilibria cannot support development, and those communities that are victims of these negative social developments would only be able to internalize the development process with the greatest difficulty. Education systems must begin now to inculcate into Africa's young, a respect for the rights and property of individuals, the adoption of constructive rather than destructive behaviour, and a love of self, community and nation. In addition, the spirit of self-reliance must be cultivated among Africa's young to reduce the pervasive feeling of helplesseness in the search for solutions to problems of day-to-day living. The new generation of Africans must be made to feel confident in themselves, to know that they are capable of surviving with or without the help of others and thus be equipped with the moral and psychological fortitude necessary for any man to take the first step towards doing those things required for his self-upliftment. In this way, the excessive dependence on "other" - community, government, outsiders - for food, jobs, incomes, skills, materials, money, will be reduced and Africans will be armed with the confidence they must have to be able to provide jobs and incomes for themselves, become job-creators rather than job-seekers, produce what they need for their own survival and growth and turn inwards for their self-reliant and self-sustained development.

One signal from the crisis to Africa's human resources development systems is that the skills available on the continent may have become obsolete in the face of the problems that have emerged in the last few years. Economic management capabilities have proved unable to cope with the problems of economic decline: planning systems have, as it were, been put into cold storage; public financial managers are overwhelmed by the debt problem; production managers do not seem to be able to make things work; and managers of the social sectors have almost lost control over the smooth administration of their respective departments. There is an urgent need to realign present capabilities with the emerging problems confronting the African economy and with the imperative to evolve new capabilities to manage recovery. Training and staff development systems have a major role to play in this. They should formulate special tailor-made programmes to correct the skills imbalances in agriculture, industry and management. They should also undertake detailed and realistic training needs assessments in order to ascertain not only what training should focus on, but also to work out programmes schedules and the provision of training resources.

The institutions of higher learning have a special role to play in assisting governments attain the objectives of recovery and development. They should, first and foremost, critically re-examine their activities in the areas of teaching, learning, research and service to the community, with a view to determining how, through these activities, support could be provided to the national recovery and development programmes. The institutions should make a special effort to rebuild planning capabilities in Africa by mounting special learning and research programmes for planners and managers of the African economy and by helping to evolve new approaches to development planning. The many causes of economic decline within the continent should also be unravelled. University research on development issues must address this urgent need.

More specifically, universities and other third-level educational institutions should reflect within their activities in learning, research and service to the community, the need for Africa's rural and agricultural sector to be transformed, for sectors supportive of agriculture to be strengthened and for the productivity of the rural African to be significantly increased. They should strengthen their consultancy support to government, state-owned enterprises and the private sector and evolve a more problem-solving-oriented approach in the services they provide to the communities that surround them.

Discussion Question:

What role has the Manpower Planner to play in the developmen of the education system?

(iii) Improving the Utilization of Human Resources for Recovery and Development

Very serious declines in the levels of employment and productivity have been registered throughout the region, partly as a result of the crisis, the ensuing economic contraction and the recovery measures being implemented through structural adjustment programmes. Lay-offs, employment freezes, diminished levels of investment in development projects have constricted African employment markets, thereby significantly reducing the availability of employment opportunities to Africa's growing labour force, particularly the young school leavers. Wage and salary freezes and the deep erosion of pay packages have also brought about a situation of extreme hardship to many in Africa's workforce. Many public servants have become demotivated and this has had an impact on their productivity and efficiency on the job.

Yet the recovery programmes recommended in APPER and UNPAAERD have far-reaching implications for the utilization of human resources. An implementation of these programmes would have very positive effects on economic growth, which would stimulate the labour demand and boost employment levels within the economy. The rehabilitation of the agriculture sector would bring along with it many opportunities for employment creation within and outside that sector, as well as significantly bring down the high levels of underemployment in African agriculture. Industrial sector workers would also be made more productive if plants are rehabilitated and equipment, spares, raw materials and other industrial production inputs are made available. In the public sector, the parastatals and services, the expected improvement of management capabilities, especially improvements in supervision, monitoring, accountability and control, would raise efficiency levels considerably.

Efforts will have to be made to bring these changes about since no significant improvements in these areas have as yet materialized since the adoption of APPER and UNPAAERD. African governments should pursue investment strategies that would have as a central objective, the generation of employment for a growing labour force, bearing in mind that the present and future rates of population growth within the continent demand that they create 280 million new jobs through the next twenty years just to keep unemployment constant at present levels. Policies aimed at reducing public sector employment also have to be reviewed. This is so because the public sector in most African countries is the major provider of employment, incomes and livelihood to the wage labour force. It, therefore, fulfils a social need, without which many households would suffer and social and political tensions would mount.

The growing problem of educated unemployment also requires serious and immediate attention for it represents a big waste of human and financial resources. Those affected represent huge amounts in public investments through education, health and other social services. Their not being utilized at all amounts to a loss of those public investments. Furthermore, it is important for this large group of young men and women not to be provoked into destabilizing society by being left in idleness, frustration and bitterness. Strategies must, therefore, be conceived to utilize them in productive economic activities.

Another indicator of inefficiency in the utilization of human resources is the brain drain. The crisis conditions that emerged on the continent contributed significantly in propelling the flight of skilled Africans from the region. The declines in real incomes, deteriorations in the working environment, the wide-spread shortages of working tools and equipment, the difficult social conditions such as the poor functioning of social amenities, transport systems, poor housing conditions, declining standards of education, shortages of goods and services etc., political instability, have all converged to worsen the problem of the brain drain as more and more of Africa's middle- and high-level manpower are forced to flee the oppressive conditions of living prevailing. African governments should very seriously consider measures to arrest and if possible reverse the trend because a heavy outflow of highly skilled men and women from the continent would deprive Africa of a good proportion of those very resources it requires to effect recovery and development. The causes of the brain drain must, therefore, be unravelled with a view to instituting the appropriate measures to remove them.

The management of the workforce should also be looked into. Efforts must be made to adopt supervisory and personnel management practices that would motivate the worker and bring about greater efficiency and increased output. This requires that those demotivating factors such as nepotism, tribalism, religious biases etc. should be identified in the management of the workforce and rooted out.

Support should also be provided to enhance the productivity of workers in agriculture. Fiscal incentives to these workers should be increased in the form of an expansion of public services such as health, education, transportation etc. Government intervention in controlling prices and increasing producer prices, providing social amenities such as potable water, sanitation facilities etc., strengthening production infrastructures such as irrigation, extension services, marketing facilities etc., are important to make the farmer more productive, because the healthier he is, the higher his level of education and the more support he receives for production, the more he can increase his output.

The informal sector should be recognized for the many services it renders to the growth of the African economy: the provision of incomes, training and millions of jobs to workers who would otherwise remain jobless and unskilled, the production of many intermediate and final products and the rendering of valuable services to society. Government policy towards the informal sector should now be less negative and should seek to define a clearer role for this sector to play in the recovery and development process. These policies should aim at strengthening the informal sector by assisting in improving the quality of the goods it produces and the services it provides by increasing its absorptive capacity and by making it able to attain higher levels of productivity.

At the regional level, African governments should explore the possibilities of formalizing co-operation in the use of high-level manpower by promoting the exchange of experts to fill vacancies in the public and private sectors of their economies. This would ease the problem of university graduate unemployment within the region and would also have a most favourable effect on the brain drain by decreasing the possibilities of outmigration of the highly skilled.

III. INSTITUTIONAL SUPPORT

The implementation of programmes to better plan, develop and utilize human resources requires tremendous support from a wide range of government institutions. Apart from those ministries with a direct responsibility for human resources planning, development and utilization such as education, manpower, labour and planning, much support is required from other ministries such as health, local government, industry etc. The priority for these support ministries is to orient their activities so that they enhance the national effort to develop and better utilize human resources. Thus, ministries of industry should pay greater attention to solving problems of worker productivity in industrial establishments, promote training and monitor in-plant working conditions. Local government ministries should provide the backstopping required to facilitate the delivery of human resources programmes and encourage grassroots involvement in recovery and development programmes. Health ministries will be required to monitor primary health, maternal and child health and nutrition programmes more intensively. Ministries of agriculture must expand their extension services and increase their provision of inputs to agricultural producers.

The ministries with direct responsibility for human resources planning, development and utilization must undergo fundamental reforms to prepare themselves for the new tasks they would have to face to meet the new priorities of recovery and development. In the areas of manpower and employment planning, greater efforts must be made by African governments to centralize the planning function under one ministry. At present, the effort is, in some cases, too diffuse, involving ministries of economic planning, labour, public services and education. Some countries have already taken steps to centralize the human resources planning function by creating ministries of manpower and employment or human resources development.

A major bottleneck to the planning of human resources in Africa is the fragility of the data base. There is a very real need to improve on the collection, processing and analysis of data for manpower and employment planning. It is also necessary to be clear as to the purpose of data collection in order to be precise as to the type of data to be collected and the ways they will be used. This in turn requires that more clarity and precision be given to the definitions of the various labour force concepts in use within Africa especially in view of the peculiarity of the African economy, and of African labour markets. The staffing of these ministries should be strengthened in response to the need for greater efficiency in the planning of human resources. For the same reason, structures must also be reinforced.

The institutional requirements for improving human resources development would require that attention be focused on the creation of some government mechanism to co-ordinate the many contributons from diverse quarters, to education and training. Offers of training fellowships should be scrutinized for their relevance to national needs and priorities. Non-formal education and training programmes, particularly those being offered by NGOs and other aid agencies should fit the training priorities of governments. This requires constant monitoring of the various interventions and an interface between all the line ministries concerned. A government institution should be set up for this purpose.

ANNEX TO PART ONE

ANNEX

SOME SUGGESTED MEASURES FOR IMPROVING HUMAN RESOURCES MANAGEMENT FOR RECOVERY AND DEVELOPMENT

(i) Support for the Development of Human Resources

The major challenge to African governments and institutions in the coming years would be how to at least sustain human resources development efforts at current levels. They would have to contend with a growing demand for education and training in the face of dwindling resources. They should, therefore, consider the following courses of action in order to ensure that Africa's human resources are developed to the right levels and in quantities that would sustain the recovery and development process:

(a) At the National Level

- Make education and training more relevant to national recovery and development priorities.

- Assist educational institutions in activating their latent income-generation capacities by providing seed money for them to develop agricultural and industrial production enterprises, consultancy services, etc. with a view to reducing the total dependence of these institutions on government for funding and build their capabilities to generate resources for their own programmes.

- Make greater use of the research and consultancy resources available in Africa's third-level educational institutions so as to reduce the cost of hiring expensive expatriate personnel and to increase the incomes accruing to these institutions.

- Establish or strengthen educational resource centres to produce teaching materials and aids thus making importation of these unnecessary and greater savings in foreign exchange spending possible.

- Explore possibilities of maximizing the use of educational resources such as establishing double-intake systems, vacation courses etc. in order to extend educational opportunities to a larger population of youths in a most cost-effective manner.

- Resort to other forms of education such as non-formal education to supplement the effort to expand education to reach the poor, rural communities, out-of-school youths, women, etc. in areas such as literacy, community health, child care, nutritiion education, etc.

- Institute a special programme of training for public sector officials in fields critical to the management of recovery and development such as debt management, monitoring and control, procurements management, resource management, etc.

- Carry out an analysis of training requirements for the implementation of national recovery programmes in agriculture, sectors in support of agriculture and drought and desertification control. This analysis would then be followed by a vigourous programme of training which would be targetted to specific objectives.

- Tap new sources of revenue generation for education and training such as levies on industrial establishments, commercial firms and multinational companies. The proceeds should then be used to supplement the usual government allocations to the education and training sector.

- Institute special education, training and research programmes within national third-level educational institutions to align skills to the priorities of recovery.

- Formulate and implement within universities, programmes of research and development specifically designed to respond to recovery needs in agriculture, industry, science and technology and management.

(b) At the Subregional and Regional Levels

- Countries in each subregion should come together to formulate strategies for the harmonization of approaches to the solution of common problems of human resources development which they face. These may include the joint establishment of educational resource production enterprises, book production centres, etc.

- Within the framework of subregional groupings, the countries of the respective subregions may consider modalities for sharing existing institutions and for maximizing their use. They should also consider formulating a long-term plan for developing human resources on a subregional basis.

- African governments should collectively strengthen the regional capability to provide graduate and post-graduate education in the critical fields of development such as agronomy, hydrology, meteorology, animal science, veterinary medicine, engineering and technology and the management sciences.

- Collective regional efforts should be made to draw up a five year programme of R & D for agriculture, water resources and industry. Africa's third-level educational institutions should assume the responsibility for action on this recommendation.

- Third-level educational institutions should harmonize their efforts to strengthen existing networks for research and teaching and create new ones.

- The existing specialized regional education, training and research institutions should be significantly strengthened in order for them to fulfil their mandate and contribute effectively to Africa's socio-economic and technological transformation.

- African governments should increase resources for training by making more meaningful contributions to the regional, ECA-administered training and fellowships programme for Africa, whose present resources are far from adequate to meet the demand for training from African nationals throughout the continent.

(ii) The Utilizaiton of Human Resources

As a matter of urgency, it is imperative that quick solutions be found to Africa's soaring unemployment rates and the alarming rates of underemployment especially in agriculture. These human resources utilization conditions do not augur well for social stability and are themselves harmful to the economy. Therefore, the following action could be given the deserving attention:

(a) At the National Level

- Innovative strategies for employment creation must be sought. These may be found in the implementation of the recovery programmes by African countries which would significantly boost labour demand.

- As an immediate temporary measure to attack urban unemployment, public works employment-generation schemes should be put in place to provide the unemployed with incomes on which to subsist. Loans could also be provided to retrenched public sector workers to enable them establish themselves in the private sector.

- Efforts should be made to protect standards of living of African workers in a manner that would ensure that they are more productive and dedicated to their jobs.

- More inputs and incentives packages should be provided to agricultural workers to increase their levels of output and reduce underemployment.

- The informal sector should feature prominently in any plans to strengthen employment-generation capacities within African economies in recognition of the importance of this sector in providing jobs, incomes and training to a significant proportion of Africa's labour force.

- Working conditions must be improved for Africa's high-level manpower in order to reduce their propensity to migrate and thus attack one fundamental cause of the brain drain. They should also create an enabling environment for high-level manpower, especially those in educational and research institutions to make their work productive, efficient and stress-free.

- Employment planning capabilities should be strengthened through the creation of those institutions that would carry out this planning function, the training of staff, the greater allocation of resources and the according of a higher priority to employment-generation in national planning objectives, goals and targets.

(b) At the Subregional and Regional Levels

- Governments in the various subregions should collectively agree to promote the free movement of nationals of countries of each subregion without fear of harassment, for the benefits this brings to the sharing of expertise, ideas and culture and its contribution to real integration.

- In a bid to combat the brain drain, African governments should initiate a programme of within-region exchange of experts to which they would contribute and which would be administered by ECA.

- For the same purpose, governments are urged to support and use more intensively the facilities provided by the ECA's Return of Skills Programme for Africa, to recruit qualified Africans in Europe and North America into vacancies existing in their countries.

- Greater use should be made of the ECA Directory of African Experts for the recruitment of project personnel and consultants in order to reduce Africa's dependence on outside expertise.

(iii) Human Resources Planning

For efficiency to be attained in the development and utilization of Africa's human resources, it is necessary for the human resources planning system itself to be made more efficient. Accordingly, the following proposals could be helpful.

(a) At the National Level

- African governments must assign a higher priority to human resources planning and have this priority reflected in budgetary allocations, adequate levels of staffing and overall policy support.

- Human resources planners must strive to go beyond the mere quantitative forecasting of manpower demand and supply situations to concentrate on manpower policies and strategies formulation for both the formal and informal sectors.

- Human resources planning priorities must include planning for the skill needs of African agriculture especially in the light of the imperative to transform that sector so that it functions as the engine of economic growth.

- Particular attention should be paid to human resources planning to remove shortages in middle-level occupational categories in African countries.

- African governments should formulate a long-term human resources development plan to respond to their long-term objectives, priorities and goals of development.

- The needs of the private sector should also be addressed and in this human resources planning system should anticipate the emerging requirements for a large number of entrepreneurs in all economic sectors.

(b) At the Subregional and Regional Levels

- Within the framework of subregional groupings such as ECOWAS, ECCAS and SADCC, countries in the various subregions should collectively search for common approaches to the provision of skilled manpower and to agree on strategies of fulfilling their needs.

- The frontline states who are labour suppliers to South Africa should be assisted within the framework of SADCC to strengthen their human resources planning capabilities so that they are better equipped to meet their local skill requirements and reduce their dependence on outside expertise.

- African governments and institutions should intensify their efforts to adopt common strategies to the planning of human resources, particularly within the framework of ECA's Conference of Ministers Responsible for Human Resources Planning, Development and Utilization and the Conference of Vice-Chancellors, Rectors and Presidents of Institutions of Higher Learning in Africa.

- African governments are urged to fully exploit the ECA human resources planning programme at IDEP by nominating to it staff who are at present engaged in, or who need to be prepared for the human resources planning function.

PART TWO

MACRO ECONOMICS FOUNDATION TO MANPOWER PLANNING

CHAPTER THREE

CONCEPTUAL ISSUES IN HUMAN RESOURCES DEVELOPMENT

OBJECTIVE

The objective of this Chapter is to show that the process and outcome of human resources development are themselves the process and outcome of national socio-economic development. To do so, we shall in this Chapter, take a quick look at some basic issues that would bear on the development of quality human resources. The quality aspect would need to be stressed since it is by ensuring quality, that the usefulness and returns from developed human resources could become greater.

Throughout the Chapter, we shall present the basic tools that would enable the Manpower Planner to:

- **give justifiable reasons for requesting resources and support for human resources programmes;**
- **grasps a quick understanding of basic issues and theoretical considerations relating to the notions of basic needs and human capital;**
- **discuss freely and more analytically with other sector planners on matters regarding resource sharing and allocation**

CONCEPTUAL ISSUES IN HUMAN RESOURCES DEVELOPMENT

I. A PRACTICAL PROBLEM TO BE ADDRESSED

Available resources for national development are always in deficit to national resource requirements. This reality makes difficult and at times nasty the process of resource allocation to the various competing sectors. While it could be said that the process is generally guided by a list of priorities, the individuals responsible for getting the various sectors going could play a great role in deciding on who gets what and how much of it. In playing such a role, a few traits could become handy particularly, in an undistorted decision making environment. First, the contribution that the presented programmes would make to over-all national development and security must be clearly and convincingly argued out. Secondly, there must be evidence that previous allocations are yielding or have yielded desirable fruits. To develcp and deploy the required negotiation techniques in the fight for scarce resources, would mean first and foremost, having a sound knowledge of the key issues involved and how those issues inter-linked with the welbeing of the economy and society.

The Manpower Planner is not an exception to this rule. In fact, given the relatively long gestation period between the initiation of a human resources development programme and the impact of that programme on society, his/her task of convincing policy makers for resources is greater. The best of arguments must be found and a sense of dedication and commitment openly demonstrated by the Manpower Planner. In this regard, various sets of arguments have evolved over the years in soliciting support and resources for human resources development. Among these are two which if understood and well presented, could go a long way. These are: the basic needs fulfilment argument and the human capital accumulation argument.

The macro framework and analysis within which these two arguments are often made are complex and require a sound knowledge of economic theory and quantitative analysis. Our attempt in the rest of this Chapter is to review very briefly some of the associated issues that are of particular interest to the Manpower Planner. Readers who are not well familiar with them are urged to pursue further reading in manpower, labour and macro economics.

II. THEORETICAL ARGUMENTS IN COMPETING FOR SCARCE RESOURCES FOR HUMAN RESOURCES PROGRAMMES

A. BASIC NEEDS FULFILMENT AS AN ISSUE OF HUMAN RESOURCES DEVELOPMENT

1 Critical Issues for Consideration

(a) Evolution of the Concept

The World Bank publication Accelerated Development in Sub-Saharan Africa, better known as "The Berg Report" initiated a debate on what should be the general development strategy for Africa over the 198Os. The Report had concluded that African governments' policies were bias against (i) exports, through overvalued exchange rates and restrictions on trade; (ii) private sector, through overextended government intervention in the economy; and (iii) agriculture, through pricing policy, exchange rates and protection of manufacturing with all affecting the rural-urban terms of trade. The Report was highly criticised mainly on the ground that it found its root in the classical free trade theory and failed to take into account the dynamics of the inter-national environment on Africa development process.

African governments themselves were preoccupied with rethinking the continent's development strategy. These efforts, which accumulated from a series of attempts including the meetings at Monrovia, Rabat and Lagos, were all aimed at establishing a development process that was self-reliant and self-sustaining. The premise was that such a strategy would have to gain momentum primarily from within African resources and be focused on the meeting of the basic needs of the African peoples.

Prior to these two major developments, a series of reports were being prepared by the ILO under its World Employment Programme, all focused towards a poverty alleviating strategy. The persistency and continuous worsening of the African economies, the need for a self-reliant and self-sustaining development process, the new dimension of development itself which include both growth and distribution and the need to place man at the centre of development, intensified efforts in defining such a strategy. Fundamentally, two major factors intensified the search for a new and more practical approach to African development strategy. First, the challenge of implementing redistribution without growth. Earlier development and political scientists had argued that in situation of increasing resources redistribution would be easier, since some crumps would fall to the poorer groups, thereby increasing their share without having to take away from those better off. One can see, this did not happen that way, and the issue of redistribution would certainly become more painful for the poor if growth is not taking place at all, or moving at snail pace. Secondly, continuing recession suggests that emphasis be placed on restructuring the main sectors especially those that are most concerned with basic needs.

Therefore, it is within three parameters that the concept of basic needs fulfilment as both a development strategy and development goal was born.

The impracticability of marginal theories and the classical free trade theory in explaining and sustaining African economies had given rise to an alternative search. Two, the realization of African governments that an internalized development process with focus on the meeting of peoples basic needs provided a brighter future. Thirdly, the poor results of past efforts had demanded for a new and practical approach to African development strategy.

(b) The Essence and Nature of Basic Needs

Over the years, the basic need concept enlarged in scope. A number of tactical or theoretical arguments are given to support this new reflection on development. First, the focus on basic needs as a strategy, may be seen as a way of influencing or pressuring governments in the equity direction. Secondly, by emphasizing basic needs, thought can be given to methods appropriate to satisfying these needs more effectively. Thirdly, if the components of the objective function are non-additive, so that maximizing income growth for instance does not necessarily maximize employment growth, it may be necessary to target these components directly. Fourthly, the approach is laid out in the "virtuous cycle" model: an initial redistribution of income towards poorer groups will stimulate demand for more labour intensive goods including food, creating more employment and a secondary positive effect on incomes in cummulative fashion. Such a policy pursued consistently, would produce a different growth trajectory, particularly in contrast with conventional import-substituting industrialization. Finally, the essence of the basic needs approach is that the time horizon involved requires more immediate and direct action since it has a greater propensity of reaching the lower strata of the income distribution ladder more quickly.

What are these basic needs? They are psychological in origin which in time, become sociological and economic in manifestation. As such, they are indicators whose absence within an individual and/or household would signal a feeling of deficiency and ultimately poverty in real terms. They fall into two categories when looked at from a development strategy view point. These are those that have to be purchased out of private income - food, clothing, shelter. The other bundle of basic needs consists of services which are to be provided generally by government, either free or at subsidized rates, - education, health care, safe water and sanitation. Whatever the case, the adequate fulfilment of these bundles of needs would signify the adequate development of the nation's human resources which needless to say, is inseparable from the development of the nation.

Assignment Question:

Identify the major regional development action programmes (LPA, APPER, etc.) designed by African Governments since the Monrovia Colloquium and show how the adopted strategies relate to the fulfilment of basic needs.

(c) Some Unsettled Questions

As logical as the strategy seems, there are some unsettled questions about the basic needs approach. The Manpower Planner needs to be aware of these in order to take them into account during discussions and programme development. These are mainly grouped into two categories: the problems of participation and the problem of conflict of choices on human development. At the outset, let us briefly review these unanswered questions.

(i) The problem of participation

The whole question of who is to determine the basic needs lies at the root of this problem. Is it an individual or the poor people collectively who generally may prefer beer to bread or tradition to education? Or is it the government who more often than not, evolve a bureaucratic arrogant list which is in conflict with what the individual and collectively user people perceived as their own basic needs? Secondly, left unanswered is the question of whether basic needs refer to the conditions for a full long and healthy life, or to a specified bundle of goods and services that are deemed by someone to provide the opportunity for these conditions. Consideration of these two questions which are related to the problem of participation, raises further questions:

- The question of the purpose of participation - Is it personal satisfaction, work enrichment, greater efficiency to improve results or lower costs, community development, or the promotion of solidarity? Is it an end or a means, and if a means, to what ends? Could there be a conflict between these two, if so, what?

- The question of the form of participation - Will it take the form of a centralized or decentralized policy making process and development administration? Could it take the form of work council shop-floor participation, financial participation, co-operatives or collective bargaining?

- The question of the relationship between participation and political institutions - What type of political framework would be bypassed or facilitated to encourage effective participation?

- The question of the credentials of group representatives - How representative are the representatives of organized groups? More often than not, "elected representatives" of groups are more ambitious, more energetic, more radical, more vocal, more capable, more ruthless, more cunning, more plausible, better educated and better off than the people they represent. This makes them highly un-representative and could therefore impede their ability to identify for instance the poor people's basic needs and aspirations.

Discussion Question:

How do you see these questions as complicating the use of basic needs fulfilment as a human resources development issue? Explain your position.

(ii) The problem of conflict of choices on human development

One would have thought that investment in human development through health education, etc. was good in itself since this would raise productivity. However, a series of conflicts do arise between those who perceive human development as a consumption issue, and those who see it as an investment issue. The former emphasize the intrinsic value of human development while the later emphasize productivity. The basic needs approach fails to identify these two human resource developers and to address the possible conflicts that may arise with respect to the beneficiaries, the content, and the constituencies of the two groups.

Choices have to be made, and with two different operational objectives, conflict bound to arise. First, some human beings are not and will never be in the labour force even though they may be engaged in productive activities outside the labour force. i.e, the old, the disabled, the permanently sick etc. Are these "unemployables" to be beneficiaries of the basic need approach when it comes to investing in education? The humanitarian and welfare state proponents would say yes, while the productivity crusader would say no. Secondly, choices will have to be made about the content and training of the investment in education. Should it be general or technical? Should it be liberal or scientific? Should it be embarked upon at the labour force or at the primary stage? Many other questions exist, and as we go into the issues dealing with human capital investment, the possible conflict areas in relation to these set of questions would emerge and be highlighted.

With these in mind, let us now see how the Manpower Planner could use the basic needs fulfilment argument to maximize resource mobilization for human resources programmes. The argument basically hinges around the concept and dynamic of national development in general and the development of quality human resources for greater efficiency and productivity in particular.

2. The Argument

(a) The Inter-relationship Between Basic Needs Fulfilment and the Dynamics of Development

In summary form, the concept of basic needs fulfilment and development stems from the tenent of political economy:

- Man works to satisfy his/her needs, and has the ability to produce a surplus at every level and consequently ensure social stability and development progress.

- The satisfaction of basic needs leads to the emergence of new needs particularly, when surplus is created. The optimum utilization of that surplus helps to expand the condition of production and to satisfy the needs created by the productive activity as well as those that existed before, and those that gradually appear with development.

Therefore, the basic needs approach is a return to the concept of needs as a principle of social organization and a rationalization for social action. Non-satisfaction makes the emergence of other needs impossible since work and needs are hierarchically inter-related, and the force of needs at one lower level fuels the dynamics at the next level and ultimately rising production which in turn imposes its own momentum for the upper level. In many African countries, basic needs are not being met adequately and may not be met. Worst still, there is, in most cases, a conflict or divergence of development policy objectives with different people pursuing different objectives.

Consequently, to argue for the fulfilment of basic needs within the development debate is to make two critical observations. First, development policies that are aimed exclussively at capital development which do not enhance the satisfaction of basic needs psychologically nor sociologically, cannot be justified on the grounds of efficiency. Development is not an end in itself, neither is it an external process. Development is a process whereby a society that perceives and acknowledges its needs transforms itself to be better able to satisfy the perceived needs and to improve gradually the quality and quantity of the goods and services which it can provide. People develop themselves, and together, overcome the obstacles raised by either internal or external social and other forces which have vested interest in maintaining the status quo. Thus a development process must be preceeded by an in-depth study of the society concerned. An analysis of the forces whose interaction explains the present conditions of the people and those that could bring about future improvements must be made. The basic needs approach provides the necessary tool to make such an analysis as it goes well beyond mere description of societies into what their needs are.

In the second instance, there is a major link between meeting basic needs achieving development. This link shows that the fulfilment of peoples basic needs is the main prerequisite for the radical transformations necessary for development. It is only by tackling the priority problems of meeting the needs that an economy can be restructured towards its own development. Let us not forget that people work to satisfy their needs and they are increasingly successful as their productivity rises. This suggest that the dynamics of needs and of production are inseparable. Work and need satisfaction have never been matters for the individual alone but also for the society with social implications. In short, the structure of any society depends greatly on the way in which work is organized on the one hand and needs are fulfilled on the other hand.

Some major conclusions may now be drawn to put the argument into better perspective. Appropriate social relationships are indispensable for development. Structures must be suited to the aspirations and needs of the individual society. Use of the private sector approach to development could yield little results in this direction partly because private sector economic calculations are incompartible with those required for linking the dynamics of needs and production. This means therefore that an alternative type of economic calculation would be needed for working out the dynamics of needs and production. Such an alternative should consist of allocating available resources to human development and to those programmes that would ensure the highest possible growth rate in the satisfaction of basic human needs under the constraints of minimum annual growth. Also, such calculation would require the definition of a planning policy which would adequately address regional development, put into balance trade transactions, and encourage economic co-operation. A constant search for resources to foster the development and utilization of quality human resources would providing the direction in the process and determine the effectiveness of the planning process.

(b) Physical, Mental and Nutritional Factors as Inputs for the Development of Quality Human Resources

(i) Physical and mental health factors

Improvement in the quality of manpower is by no means the exclusive province of formal schooling. In addition to other factors, investments in physical and mental health programmes are an important ingredient in the development of quality human resources. Recent attempts to explore the sources of economic growth have all led to new propositories. Much of economic growth now appears to have been a function of many factors such as quantitative and qualitative changes in resources, changes in production functions, and economies of scales. More and more attention is being directed to the need for changes in the quality of labour resources in the growth model. The hypothesis is that labour productivity would rise in part because the capabilities of workers were improving. People who are well fed, healthier and better educated can produce more, Moreover, a well fed and healthier person can benefit more from education and an educated person can benefit more from training on the job. In these ways, the economy's production possibility curve is shifted outward with growth being the result.

Discussion Question:

Bearing in mind the above stated hypothesis, can you explain why expenditure on health is one of the direct means by which the quality of labour resources could be improved?

One point which needs to be made is that physical and mental health factors in the development of human resources do not act separately from other factors such as environmental, economics, social and political. In other words, human resources development is the product of the balanced interplay of a host of controllable and non-controllable variables and programmes. Therefore, to understand human resources development is to understand this inter-action and consequently, to embark upon a holistic approach. Another point is

that pre-independence human resources quality enhancing programmes and health care activities in the urban areas, were based on models introduced in a number of different ways by different outside groups including colonial masters, missionaries and private business. All of these services laid emphasis on tertiary health care. Moreover, their professors condemned and surpress the psychological and sociological consideration as manifest in disease diagnostic and healing activities of African traditional medical practitioners, and degraded their drugs, methods and systems. Not only did these relegated health and the related psychological and sociological considerations, they also left a vacum in the provision of physical and mental health programmes which are needed as inputs for the development of quality human resources.

This gap must now be filled. A number of obstacles that have frustrated African governments' efforts towards filling this gap have been identified. These include the following:

- Imbalance in resources share - A fundamental obstacle is the imbalance in the allocation of resources to and within the different sectors of the economy. The gravity of this obstacle is functionally related to the level of social and economic development of the particular country concerned. Invariably, a relative smaller share of national financial resources is allocated to the health sector. An adding fact which is disturbing, is that given the labour intensive nature of the health industry, manpower consumes a greater share of the little share allocated to the health sector. As a result, insufficient finance is left for providing the necessary infrastructure and non-labour inputs to achieve not only the optimum productivity of health manpower, but also nurture those factors that would ensure the physical and mental welbeing of the people..

Discussion Question:

Care ought to be taken when analysing the resources allocated to the human resources development in national budgets, or else the wrong conclusions could be made. Why or why not?

- Inadequate national commitment to long-term policies and plans: - There has been insufficient commitment by many African governments and ministries of health to long-term policies and plans for say the development of the health manpower to meet the health care needs of the population. One of the reasons given to explain this lax attitude is that there is a scarcity of national capabilities and management skills to formulate plans and implement activities effectively and efficiently within available resources. Furthermore, most national health programmes often lack the processed data to give the required knowledge and analysis for proper monitoring and evaluation of human resources development as part of the management process. This trend would need to be reversed by allocating resources to develop the necessary capabilities.

- Relevance and training resources: To provide the required health needs would mean first and foremost, having adequate health manpower. This suggest a need for a health manpower development programme within the framework of overall national human resources development programme. Attempts to do so have been stalled because generally, the curricula of health workers training programmes are often irrelevant which demonstrates the lack of co-ordination between education institution who do the training and the health and social development services who employ the graduates. Compounding this is the severe shortage of both physical facilities and competent teachers to man the required types and numbers of health personnel, and this gap would need to be filled.

The point is that if the objective function is that of developing quality human resources, then all efforts will have to be intensified to redress these and other constraining factors. There are various physiological, psychological, intellectual and other innate resources within the human being which would need to be cultivated through relevant health programmes in order to develop and make efficient his knowledge, skills, attitude and fitness for greater productivity. With productivity being the activator of development, resources allocated to achieve greater productivity are resources devoted towards national development.

(ii) Nutritional factors

There is general agreement that improved nutrition is part and parcel of a better quality of life. Its absence can have a number of implications on a nation's wellbeing. Among these implications are deficiencies in the immune system leading to increased prevalence of disease, morbidity, mortality, fetal and neonatal wastage; impaired cognitive functions and subsequently leading to learning disabilities and physical performance; decrease productivity and abnormal behavioural and social attitudes. For the purpose of the Manpower Planner, understanding the relationship between malnutrition and the development and functioning of human resources, i.e. cognitive functions and performance functions (work) is of special interest. The two major arguments link nutrition to the intellectual development of the person, and to his/her physical performance on the job. These can be summarized as follows:

- Malnutrition and intellectual development - Human abilities to successfully cope with environmental demands rest largely upon cognitive functions including obtaining information, processing it effectively and executing an appropriate response on the basis of prior experience. Severe malnutrition affects intellectual development, especially if it occurs during the first six months of life. It has been found also that the harmful effects of nutrient deficiencies on the brain is severest when the fetus is affected. In both cases, the resulting mental, psychological and educational handicaps are not completely reversible, with a marked effect on social and economic productivity of the nation. More directly, malnutrition affects cognitive functions, interfering with brain development, especially during the brain period of maximal growth from "mid-gestation" to the first 6 months of life. Indirectly, it affects cognitive functions by its interaction with social environment in the household. It has once been said that the inadequately nourished child shows characteristics of apathy, non-responsiveness, non-goal directed behaviour, impulsivity and emotionality and general failure to respond normally in social interaction. On the learning aspect, malnutrition interferes with education later in life. In the first place, the nourished child's ability to concentrate and learn are impaired. Secondly, the malnutritous child could be absent from school more frequently due to the frequent occurrence of nutritionally related illness.

- **Malnutrition and physical performance** - Perhaps a point which needs to be made at this stage is that the effect of malnutrition does not only stop at the human resources development phase. There is evidence that malnutrition in early childhood also affects the working capacity in adolescence life, mainly through its effect on body weight. The interaction between physical activity and cognitive functions is particularly evident among malnourished children where the reduction in play and other physical activities have implications on the functional development of the learning process. the muscles and skeleton would need to be adequately developed not only to ensure proper manipulations of tools and equipment, but also to ensure durability when performing a given task.

On major conclusion which seems to have emerged so far, is that health and nutritional programmes as with other human resources development programmes, should not only be regarded as that of meeting basic needs, but as a means of developing a pool of quality work force for greater productivity. The extent to which these programmes affect those innate variable within every human being would determine the extent to which that person develops and uses his/her knowledge, skills, attitudes and durability in doing what is to be done. As can be seen, decisions involving choosing from among alternatives will have to be made when allocating resources for the development of human resources. the issues and complexities in making such decisions will have to be fully understood by the Manpower Planner, who should bring to bear the necessary position on national policy makers.

Discussion Question:

How far do you see your role as a Manpower Planner in all this?

B. HUMAN CAPITAL FORMATION AND ACCUMULATION AS AN ISSUE OF HUMAN RESOURCES DEVELOPMENT

1. What is the Human Capital?

The concept of capital as used in this section consists of entities that have the economic property of rendering future services of some value. Within an economy system a dichotomy needs to be separated at the outset: that between human capital and non-human capital. We shall deal with the human capital aspect. The distinctive mark of human capital is that it is a part of man. It is human because it is embodied in man, and it is capital because it has a reproductive power and therefore acts as a source of future satisfaction of basic needs or of future earnings, or of both. A resulting unique property of human capital, particularly when men are free agents is that it is not an asset that can be sold. On the other hand, it can be acquired not as an asset through purchase in a market place but by means of investing in oneself. It follows therefore that no person can separate himself from the human capital he/she possesses. He/she must carry and apply his/her human capital whether it serves him/her in production or consumption. This means that the economic behaviour pertaining to the formation, accumulation and utilization of human and non-human capital should be treated differently.

Essence of the human capital model is that those who have been trained more, have incurred a foregone earnings cost. Secondly, their productivity will have increased also which would enable them to be paid more. The amount that productivity and earnings must increase will be determined by the foregone earnings cost of training. Since this cost is regarded as an investment, the extra payment should be just enough to secure the same return on investment as on a comparably risky physical capital investment. A word of caution at this stage may suffice: there are many factors other than education and training which determine an individual's pay. Among these are: ability differences among individuals, and differences in their home environment including the family funds available for their schooling. All of these would need to be taken into account when modeling human capital formation and accumulation.

2. In Which Way Can the Human Capital Argument be Used?

Though the idea of treating human beings as a capital component in the economic development process was incorporated by classical economists in their analysis, it was only recently that the idea was fully integrated as a component into the stream of economic thought. Recent attempts to understand the nature and impact of the causes of economic growth, economic efficiency for public sector expenditures that cannot be regimented by the price mechanism, and the nature of economic development and manpower planning gave rise to this new direction.

Given these, particularly the last reason, the theory of human capital becomes useful to the Manpower Planner in three ways. First, it would give a better understanding of individual long-run labour supply decisions and adjustments and thus allow him/her to better relate the need for human capital investment to the achievement of labour market equilibrium during the debate for scarce national resources. Secondly, it provides a useful guide for governmental decisions concerning society's allocation of scarce resources to the formation and accumulation of productive human capacity. Finally, the theory provides an explanation for income differentials among nations and individuals by providing a clearer analysis of family background and ability on wealth and power.

For our purpose, we would treat the theory of human capital as a measure for considering long-run labour supply decisions. The quantity of labour supplied must reflect the quality of labour as well as the hours of work, and long-run labour supply decisions are made on the basis of choices on present and future consumption. Long-run labour supply decisions on this are important determinants of economic welfare and its distribution among individuals and families in society. Long-run labour supply decisions involve changes in all conditions affecting the quantity and quality of labour offered to the market. In order to obtain maximum economic wellbeing, individuals choose whether to incur opportunity costs say in the form of tuition, lower current earnings, moving expenses, the cost and inconvenience of looking for a new job etc., in order to reap future benefits. This means that, long-run labour supply adjustments involve current costs and future returns. In this sense, the process can be seen as a process of investment, hence, the theory of long-run labour supply is a theory of decisions to invest in human capital. We shall take a closer look at these issues later.

Human capital formation is affected by investment in sectors that impact the physiological, psychological, sociological and emotive variables within the human beings. Specifically, it is affected by investment in formal education, improved health, on the job training, food and nutrition, manpower mobility, manpower rehabilitation and environmental consideration. The approaches used in analysing human capital formation vary. The approach used would depend on whether one's interest is more directly related to problems associated with economic growth and development, or allocative efficiency of investment in human capital, or manpower and educational planning. We shall consider each of these alternative approaches within the framework of the basic human capital model later whose understanding would better equip the Manpower Planner in advancing the argument.

Regarding the basic model, we need to highlight a few issues that are of interest to the Manpower Planner. First, anyone who is interested in the fundamental determinants of wealth, its distribution, and government efforts to improve the well being of the lower income group must understand the process of investment in human capital. Clearly, the distribution of economic benefits among individuals can largely be analysed in terms of the distribution of investments in human capital and the returns obtained from them. Secondly, the argument has been advanced that it may be morally wrong or incorrect to speak of human beings as though they were merely machines. For this, there are strong arguments on both sides.

Discussion Question:

Is it moral or inmoral to discuss human as capital resources, and what would be the impact of such discussion on the trend of development?

3. Theoretical Issues to be Mastered by the Manpower Planner on the Human Capital Model

(a) Estimating Human Value

Basically, two methods have been used to estimate the value of human beings in the development process; (i) the cost of production and (ii) the capitalized-earinings procedure. The former method consists of estimating the real costs (net of maintenance) incurred in producing a human resource; while the latter consists of estimating the present value of an individual's future income stream (either gross or net of maintenance). The cost-of-production method is the less useful, since there is no simple and necessary relationship between the cost of producing an item and its economic value. The inseparability of consumption and investment and the difficulty of treating depreciation and maintenance make any cost-of-production value dubious. The capitalized-earnings method is commonly in use for evaluating the work of human beings. The use of this approach avoids the depreciation difficulty, since, everything being equal, a young person is expected to be productive over a longer period than an older one, and therefore making his/her capital value greater.

Economists who used these methods have several motives for treating human beings as capital and valuing them in money terms. They would like to: (i) demonstrate the power of a nation; (ii) determine the economic effects of human resources development programmes such as education, health investment, and migration; (iii) propose tax schemes believed to be more equitable than existing ones; (iv) determine the total cost of war; (v) awaken the public to the need for and health conservation and the significance of the economic life of an individual to his family and country; and (vi) aid courts and compensation boards in making fair decisions in cases dealing with compensation for personal injury and death.

(b) Alternative Approaches to Human Capital Analysis

Let us now come to the alternative approaches used in analysing human capital formation. It was said that the adopted approach depended on whether one's interests are more directly related to the problems associated with economic growth and development, allocative efficiency of investment in human capital, or manpower and employment planning. Briefly, let us see what is involved in each of these three areas.

(i) Human Capital Stock and Economic Growth

Estimates of the value of the stock of human capital at different points in time constitute one approach to manpower and economic growth analysis. Generally, the present value of future earnings is used to estimate human capital stocks. Derivation of the present value (PV) of a human capital asset is a function of the summed incremental life time earnings and other benefits (B_t) associated with different levels of human capital formation (i.e. education) discounted by the asset.[1]

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[1] A separate Chapter is presented in this Handbook explaining these basic notions associated with the derivation of the present value estimation.

This can be represented as:

$$PV = \sum_{t=1}^{N} \frac{B_t}{(1 + r)^t}$$

Care ought to be taken in using the discounted earnings approach since it raises a number of unsettled questions related to changes in future mortality, the validity of earnings and other readily measured economic variables. What is important is that the approach gives an index which says something about human capital stocks. This allows one to delineate the form and magnitude of quantitative relationships between inputs (labour and capital), outputs (national income), and whatever unexplained growth in output.

(ii) Allocative Efficiency of Investment

Analysis of costs, benefits, or returns to investment in human capital is a widely use method of studying human capital formation. The central purpose of benefit-cost analysis is to determine the relative efficiency of alternative expenditure programmes. The discounted ratio of benefits to costs over the life of the asset is one way of reflecting the extent to which investment alternatives are preferable. Rate-of-return studies are similar to benefit-cost analysis in that the present value of life time returns is equated to cost outlays to derive a percentage return on investment.

The internal rate of return is that rate of discount which just equates the present value of prospective returns and costs. All these are methods to evaluate investment returns as a basis for decision making. We shall take a closer look at these later on in this Handbook. However, let us note some analytical difficulties posed by this approach particularly, if the task is one of measuring social benefits and costs. For example, raised are issues such as (i) the extent to which earnings reflect marginal productivity in contrast to market imperfections; (ii) nonmonetary returns including consumption returns; (iii) benefits that possess external or spillover qualities and (iv) the selection of an appropriate discount rate (in benefit-cost analysis) or comparative rates of return (if internal rates of returns are derived). These notwithstanding, investment returns analysis has made a major contribution by redirecting the attention of economists to long unresolved issues in the fields of manpower and economic development. Secondly, this approach may help planning efforts focus more sharply on rationalizing a'ternative patterns of resource allocation with the public sector.

(iii) Manpower and Employment Planning

Within this context, inter-temporal correlation may be used in an attempt to relate growth in human capital or expenditures on education, health, nutrition to stages of economic development. Besides, understanding future development needs and prospects is acute all the more because of the lengthy lead-time period required in the production of a unit of human capital. Analysis of manpower demand characteristics and the supply of trained manpower as an output of the education industry, constitutes a complementary manpower planning approach. Many people have argued for better analysis of manpower requirements on the basis of skill-level characteristics and have placed less emphasis on rate-of-return studies and manpower planning by aggregative occupation profiles. Though the human capital theory can be used to translate manpower requirements into educational planning and manpower development, some problems exist in the use of this approach. Among these are:

- the uncertain extend of human capital substitution;
- the skill-level impact of changing technology;
- the specificity or generality of training required;
- difficulties associated with the accuracy of long-run projections;
- the production lag in human capital formation;
- issues related to educational goals, means and structure.

Assignment Question:

Explain in not more than ten pages how each of the above listed problem areas could become a problem in such a case.

A major conclusion to be drawn from what has been said so far is that one of the major areas of economic inquiry concerning manpower economics is the formation and accumulation of human capital - a process of further developing the productive capacity of human resources through investment.

Let us next consider the question of human capital investment decision and at some simple calculations to provide a better understanding of the issues involved.

(c) Deciding on How and When to Invest

(i) The Decision Model of the Individual

Investments in human beings may take many forms. Generally, these take place on the job as part of market work activity. These are job associated investments in human capital which consists mainly of formal and informal training programmes that take place within the firm. The other form takes place in the non-market sector. Usually, it is that which is acquired before the person enters the labour market. At times it could be difficult to physically separate these two forms neatly as would be the case in say an investment in health care which takes place both as a household activity (having children vaccinated against diseases) and on the job (controlling exposure of workers to toxic substances). Under the home phase or household investment, human capital theory analyses why some individuals acquire much more education than others particularly if one is interested in earning differences among individuals. The implication is that this results mainly from the non-transferable nature of the assets acquired during education which prevents the emergence of a commercial market for human capital so throwing the individual back on his family's resources. Under the

market phase, human capital theory analyses the acquisition of further skills obtained on the job, and the rate of return to these investments and to education.

Consequently, the individual earnings determination model in and out of the market can be characterized as follows:

(a) The home (household phase)

$$S = a + bF + E_1$$

(b) The market phase

$$Y = c + dS + eT + fF + E_2$$

Where S = an index of education

F = an index of family advantages

T = a measure of on-the job training

Y = Market earnings

E_1 and E_2 capture the effects of omitted variables such as ability and non-pecuniary job advantages.

(ii) Making of a Decision: The Household Investment Framework (an illustration of the process)

As soon as we begin to deal with labour supply decisions that have consequences over several time periods, it becomes appropriate to treat them by means of a theory of human capital. Let us see how such analysis could help in the decision making process. We shall only concentrate on the home phase or the household investment framework. Though not yet fully developed, human capital investment analysis could provide a powerful tool for understanding on-the-job training programmes. It is no secret that workers value to employers increases with accumulation of such productivity - enhancing training.

As implied earlier, this household investment describes how an individual or family chooses the "correct" amount (and type) of investment in human capital. For analytical purposes, we would refer to this goal as wealth maximization. The basic assumption here is that an individual achieves the most satisfaction from labour market decision by maximizing his or her monetary earning power. Let us be reminded that utility maximization does not necessarily imply opting for labour market choice that yields the greatest monetary opportunities. Certainly, "compensating differentials" among wages in different occupation, industries, and geographic locations complicate the study of long-run labour supply decisions.

What does it mean to maximize one's potential money return in the labour market over the long run? To attempt an answer, let us begin by modelling the factors which a wealth-maximizing individual would take into account when deciding on an extra year at school or university. Let us not forget the time value of money, which must be taken into account when the analysis is made. With our wealth maximizing individual, his/her decision to withhold labour services till a later date in the future has cost some money. This main cost include the extra earnings foregone plus any direct investment in the accumulation of human capital. Equally, he/she expects some future returns on this investment. The present values of these returns and cost can be generally represented as:

$$B_o = \sum_{t=1}^{N} E_t (1 + i)^{-t} , \text{ Or } \sum_{t=1}^{N} \frac{E_t}{(1 + i)^t}$$

$$C_o = \sum_{t=1}^{N} C_t (1 + i)^{-t} \quad \text{Or } \sum_{t=1}^{N} \frac{C_t}{(1 + i)^t}$$

Where E_t = expected earnings increment in the "t" year resulting from the extra schooling

C_t = incurred incremental cost

i = rate of discount or the market rate of interest

N = length of working life after school

If i is taken as the market rate of interest then the individual should invest if B_o is greater or equal to Co.

The above present value human capital analysis can be used also to consider an individual who is faced with deciding between two occupations, one of which (Y) requires say two additional years of schooling but promises a great future income than the other occupation (X). Assuming that the individual is capable of doing X without further education or training, and that both occupations are pleasant, the problem would be to decide which occupation will yield the greatest present value in monetary terms. The present value analysis as sketched above can help in making this decision. The present value of future earnings in occupation X(PV_x) is the sum of the present values of each year's anticipated income. Denoting each year's expected earnings as X; where j represents the year starting from the present j = o, during which income is received. Similar representation can be made of occupation Y. Mathematically, these can be represented as:

$$PV_x = \sum_{j=o}^{n} X_j \,(1 + i)^{-j}$$

and

$$PV_y = \sum_{j=o}^{n} Y_j \,(1 + i)^{-j}$$

The decision would be made on a comparative analysis basis which would depend on the rate of interest; the direct and indirect cost of investing in occupation Y; the excess of earnings in Y over those in X after the schooling necessary to enter occupation Y; and the number of years during which the returns from investing in Y are received.

An alternative by which the above human capital decision could have been made is to deal with the rate of interest at which the present value of investing in human capital exactly equals the cost of doing so. This approach is known as the rule of the internal rate of return which simply says that the individual should invest if the calculated internal rate of return is greater than the chosen rate of discount. By implication, the internal rate of return is simply the discount rate that makes the difference between the present values of the benefits and costs equal to zero.

In our example involving the individual present value analysis the use of the internal rate of return could be represented as follows:

$$\sum_{t=1}^{N} E_t(1+r)^{-t} = \sum_{t=1}^{N} C_t(1+r)^{-t} \text{ or } B_o = C_o \text{ or } Bo-Co=0$$

and in the case of chosing between two occupations, it would become:

$$\sum_{j=o}^{n} X_j(1+r)^{-j} = \sum_{j=o}^{n} Y_j\,(1+r)^{-J}$$

Another useful human capital investment decision criteria is the rule of the benefit/cost ratio. This suggests that the individual should invest if the selected ratio of the present value of the benefits (Bo) to the present value of the cost (Co) must be greater than unity, i.e. Bo/Co > 1.

Assignment Question:

How will the B/c ratio rule be used to demonstrate our individual who has to make a decision between (a) school and work and (b) occupation X and Y?

The above decision making criteria are not free from limitations. On the contrary, there are some criticisms. We shall return to these later on when we consider the human capital approach as a manpower planning technique. What is perhaps useful to say at this stage are the following:

- Human capital approach views human resources development decisions by the use of investment decisions. It relates future benefits and current and past costs of human resource development as criteria for investments in human capital. It further simplifies attractive programmes that show positive balances between benefits and costs.
- Benefits and costs must be correctly measured in terms of comparable values and other non-monetary considerations, discounted to take into account the time value of earnings, and calculated within the context of social rates, as shall be shown later.

CHAPTER FOUR

CONCEPTUAL ISSUES ON THE GENERAL NATURE AND DYNAMICS OF LABOUR

OBJECTIVE

The concept of labour cannot be a simple one. The full understanding and appreciation of labour in the world of work is a matter for all development sciences. Ideology, sociology, economics and politics affect the preferences of employer and labour. In addition, they affect the way market groups are synthesized and, thereby, affect both structure and operation of labour markets. For our purposes, we shall limit ourselves in this Chapter to the economist view of labour. As such, we shall deal with selected issues within the sphere of labour economics paying particular attention on the economic and institutional determinants of group arrangements.

After going through this Chapter, the Manpower Planner should be able to:

- **better understand those factors that influence the operation of labour markets.**
- **define labour within the context of production, distribution and development**
- **better appreciate the framework within human resources planning and programming could be based.**

CONCEPTUAL ISSUES ON THE GENERAL NATURE AND DYNAMICS OF LABOUR

I. LABOUR ECONOMICS AND THE MANPOWER PLANNER

A typical labour economics course would basically describe, analyse and, where possible, explain (i) the process whereby labour engages in production; (ii) the institutional framework that has been built to accomodate labour; and (iii) the benefits that accrue to labour for playing such a role. What is of direct importance to manpower development and employment planners, is the characteristics and behaviour of the markets in which labour, as a distinguishable factor of production, is offered and rented. This side of labour economics is an attempt to distinguish the economic relation of substitubility and complementarity that holds between individual labourers, between labour groups, and between labour and other factors of production. In simple terms, we would be concerned in these next few pages with the way in which the individual labourer (i) allocates his/her resources; (ii) asserts preferences; and (iii) tries to overcome constraints to the satisfaction of his/her economic wants in the world of work. Against these, we would briefly peg the way in which the employer chooses: (i) to combine available factors of production; (ii) asserts his/her preferences for different possible work arrangements; and (iii) seeks to overcome constraints in dealings with labour.

II. TOWARDS DEFINING LABOUR AS A CONCEPT

Economists have divided the factors of production into land, capital, enterprise and labour. Land and natural resources are valued and included under property that can be owned or leased, thus forming part of a nation's capital stock. The contribution of labour in enlarging this capital stock is implicitly or explicitly shown in growth models. On the other hand, economists used the concept of embodied labour risk-taking, and abstinence to characterize the investment process. Enterprise is often discribed as a co-ordinating function that may be performed by the management of a productive enterprise or as a capacity to engage in activities involving non-insurable risk and uncertainty. Taking labour on its face value, it may be considered as part of a nation's natural wealth. As can be seen by the non-avoidance of labour when one considers each of the production factors, the concept of labour cannot be a simple one. Consequently, it would be rather taxing to attempt in advancing an operational definition of labour. This notwithstanding, any of the following types of definition may give us an indication of what it is that the concept of labour should cover.

(i) The Type of Work Performed:

Labour may be defined by the type of work it performs, i.e. labour is the contribution to the productive process made by human agents in the form of work by body or mind. Notice that the contributed effort must be current effort. Hence, if this effort is embodied in a durable form for later use, that durable form is no longer labour but an asset that can be leased or rented. Defining labour in this manner could be misleading since it would include certain forms that are usually not included when discussing labour as a factor of production. Traditionally, labour activities that do not enter the sphere of the market economy are omitted. For example, activities of housewives, charity workers, students and unemployed workers are excluded from the general definition.

Discussion Question:

Should activities of workers that do not enter the sphere of the labo ur market be excluded from the definition of labour? Why or why not?

(ii) A Function Performed for Returns:

Labour can be defined as a function performed for wages or salaries. This definition, which hinges on a classification by returns, involves the labour economists and policy makers in an inquiry concerning the causes of these returns and how they affect the shape and slope of labour market curves. Such definition includes in the labour function a reward for decisions that are separate from the function itself. For example, returns on education of different forms and duration are included as are returns on the entrepreneurial decision about the line of work that will be followed. Again, care should be taken when defining labour on the basis of its returns. First, it limits the analyst to the market sector which, in the African context, may have very limited meaning for understanding the total labour force. Secondly, similar returns are received by labour in certain sectors, but the returns are termed differently. For example, there is no difference in principle between the income of an employed carpenter and a self-employed carpenter, or between an employed machinist and a self-employed lawyer. But the practice is to consider the returns of the employed person as a wage or salary, and those of the self-employed as proprietarial income, which in many cases are omitted in labour market analysis simply because labour is considered as a function performed for wages and salaries.

(ii) A Status in the Labour Market:

Labour can also be defined by its status in relation to the labour market. Using this approach, a nation's population is grouped into the exclusive categories of "in the labour force" and "not in the labour force". The practice is to include only people within certain age range and who are either employed or actively seeking employment as being "in the labour force". Again relying on the use of such definition has its disadvantages as a concept for describing labour in the productive process. First, it is a market concept which omits much work that is performed but not recorded because it does not enter the market economy. Secondly, it makes no distinction concerning the type of commitment that an individual has towards the productive process or his degree of dependence on the process for the acquisition of income.

Discussion Question:

What comments or observation can you make on the inclusion of all unemployed persons in the general definition of labour?

(iv) As a Stabilization Factor:

Labour may be defined as a stabilizing agent. First, it stabilizes the interplay between their natural resources and transform their contribution into development resources. Secondly, labour could be taken as a legal entity which stabilizes labour market behaviours and national policies towards its development and utilization. Defining labour in this framework places emphasis on the important and non-reconcilable role labour has to play in economic transformation and stability. Accordingly, the focus would be on planning for human resources development and allocation, and instituting appropriate institutional framework for ensuring the interaction of labour, management and governments. With appropriate linkages, the apparent disadvantage of this definition in down playing labour as a benefactor of development, could be even out.

III. LABOUR AS A DISTINGUISHABLE PRODUCTION FACTOR

Earlier, we had shown the inter-connection of labour with the other factors of production. While it may be possible to regard labour in this manner, (i.e. a natural resource or an embodied capital) in practice, labour is distinguishable as a separate factor of production. First, labour is brought into the productive process in the form of human beings and is therefore, a distinguishable factor. Contemporary thoughts on this concept have come to support the thinking of Adam Smith when he wrote in his Wealth of Nations that "every man has a property in his own person. This nobody has any right to but himself." What seems distinguishable at first sight may not be as apparent within the productive process, at least in terms of the number of human beings.

Discussion Question:

Why should one be cautious in distinguishing labour on the basis of the number of human beings brought in the productive process?

Secondly, legislative measures, particularly in the more developed nations, distinguish between labour and other production factors on the basis of ownership. The services of labour are rented for varying periods of time. However, unlike other factors of production, the capital value of labour embodied in any particular person on the labour market is not a concept that would be held up in courts. Notwithstanding, the capitalized value of these inherent labour components do not feature in contractual agreements though they are the essence of the transaction. Thirdly, labour may be distinguishable from the other production factors purely on technical grounds, particularly if one thinks of factors of production in the broad sense of labour, capital, natural resources, and entrepreneurship. The argument is that at any given time, there is a limit to the extent to which these broad factors can be substituted one for another. This limit approaches infinity when it comes to substituting any of the factors for labour. Historical trends show that the demand, supply and wages of labour rise as income and capital stock rise, which indicates that the complementarity of other factors in relation to labour is greater than the substitubility of those factors for labour, causing the real price of labour to rise. This is even more true between different types of labour substitubility which is also far less than perfect. Therefore, given this greater limitation to the substitubility of other factors for labour and given the limited supplies of those other factors at current prices, labour is an important and distinguishable ingredient in the production process.

IV. LABOUR MOBILITY AND TURN OVER RATES

In discussing labour mobility, economists are primarily concerned with two questions. First, how mobile is the labour force? Second, what are the determinants of this mobility, or what are the pressures to which mobility is a response? Answers to these two questions should help the Manpower Planner to understand the way in which the distribution of labour responds to the changing labour needs of the subsector or region within the economy. In addition, answers to the two questions may assist economists, manpower planners and policy makers in distinguishing the component parts of the labour redistributive mechanism and thereby establish the relative roles of the "Push" and "Pull" of market forces and the relative roles of changes in the wage structure and shifting patterns of redundancies and vacancies.

Assignment Question:

How would redistribution of labour be affected by both the push and pull of market forces and by both changes in the wage structure and in the redundancy/vacancy patterns?

Labour mobility may occur from changing jobs from one enterprise to the next. It could result from workers moving from one occupation to the next either within the same firm or with another firm. Mobility could occur when workers move from one industry to the next or from one region to the other. Of utmost concern particularly for African manpower and development planners, is when mobility occurs by workers moving between countries. Knowing the extent to which each of the possible mobility would occur within a given economy could form the foundation for labour policies and labour institutions. Labour makret information availability, improvement in status, skills enhancement, social containment, family relations, etc. have all been identified by various studies as contributing factors to labour mobility.

Among the analytic issues associated with labour mobility is labour turn over. This concept is a statistical one which refers to the rates at which workers are being taken into and move out of employment in the economy. These rates are measured over given periods of time. For analytical purposes, and also to guide the formulation of labour regulation, labour turn over is divided into two basic categories - labour accessions and labour separations with the former divided further into "rehires" and "new hires" while the later into "layoffs" and "quits". The determinants of these rates need to be studied and taken into account not only in overall national development planning, but also in investment decision making.

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Discussion Question:

To what extent is your country taking into account labour mobility in the development process, and what are the constraints to such efforts if they exist?

With these concepts in mind, we shall in the next two Chapters, examine the nature and determinants of the supply and demand for labour, using the classical theoretical arguments and then relating them to the realities of the African labour markets.

CHAPTER FIVE

FACTORS IN THE STUDY OF LABOUR SUPPLY

OBJECTIVE

The study of supply in economic theory usually refers to the characteristics of the production function. The effects of changes in quantity and quality of inputs on the total volume of production are usually analyzed. In such analysis, the price is usually considered as given. The influence of variations in price on the volume also has a place in the economic theory of supply, but of lesser importance. This relative importance of mechanism and the production function is reversed in the analysis of the supply of labour. In other words, variations in price on the quantity and quality become of prime importance in the economic theory of labour supply. Other important factors of direct interest to labour economists include the sources of the supply; economic forces such as fiscal measures, workers' aspirations, etc. and institutional arrangements that affect labour supply.

In this and the next Chapter, we shall briefly introduce the salient points associated with each of these issues, and reflect on the extent to which African countries have manipulated them in their production processes. After going through this Chapter, the Manpower Planner should be able to:

- undertake labour market studies and analysis with a view to formulating policies and strategies that would affect labour availability
- develop and better apply labour supply forecasting models
- discuss the nature and impact of those factors that affect the shape and slope of labour supply curves
- inter-act with workers and worker's associations in search of viable and workable policies and programmes to balance conditions in the labour market.

FACTORS IN THE STUDY OF LABOUR SUPPLY

I. SOURCES OF LABOUR SUPPLY

A nation's total population base provides the general reservoir for the quantity of labour supply at a given time t. The behaviour of the population in and out of the present labour force combined with internal and external in and out-flow of workers and potential workers is also a source base for the nation's labour supply. Given these two major sources, four interrelated issues are often analyzed when one is considering the present and future stock and flow of labour in the productive process. These are: the size of the population; the age structure of the population; the labour force participation rate; and the individual worker's decision to optimize his/her utility function.

(i) The Size of the Population

The size of the population may be envisaged as a stock resulting from differences in flows into and out of the system and related to the time span of such net flows. Factors such as fertility, mortality and migration do influence the magnitude of these flows and hence, the size of the population. The rate at which the population stock would grow is not only of interest to the development planner, but is of equal concern for education planners and employment planners. A fast growing population would require comparable growth in educational facilities and teachers as well as productive employment opportunities for the corresponding growing labour force.

(ii) The Age Structure of the Population

The second important factor in determining the size of a country's labour supply is the age structure of its population. This is important because it is pertinent to any discussion of the size of relevant population from which the labour force is in normal times drawn, and because changes in the structure bring about changes in the flows of labour into and out of the labour market. Thus, significant movements in birth or death rates can create pressures of labour surplus or scarcity that could cause either temporary or permanent dislocations in the labour market. The age structure of the population also determines to a large extent, and particularly for the industrialized countries, the proportion into which the population is divided between dependent and supporting groups. This element is very important in the case of Africa where technology is in its infancy, and where the age boundaries for the labour force are difficult to establish.

(iii) The Labour Force Participation Rate

The third factor designated as important in the determination of the quantity of labour is the labour force participation rate. This is the percentage of the non-institutional population within the officially established working age limits who are economically active, i.e. those who, during a specific calendar period, are employed, are seeking work or are on active duty in the arm forces. The most important determinant of this rate is the motive to earn a living. Consequently, a greater desire for earning a living on the part of a nation's population and the preparedness of the economy to offer job opportunities, would accelerate the labour force participation rate and thereby affect the supply of labour in the productive process through a cyclical propensity. In technical words, the short-run supply of labour is susceptible to influence by the level of business activity mainly via the labour force participation rates of workers.

(iv) Job search and Acceptance: Optimizing the Utility Function

Another factor which affect the quantity of labour supply in the productive sector is the rational behaviour of the potential worker in his/her search and acceptance of a job. Since this is not as obvious as the other three factors let us see what is involved. An unemployed worker looking for a job has two major rational decisions to make. First, a decision with regards the method to be used in the search will have to be made. It could be window shopping or looking up employment information, or reporting to employment exchange offices, or discussing with friends and relatives, or the combination of some or all of these. Secondly, the potential worker will have to decide when to accept an offer and stop the search. This implies the existence of an optimum search policy. Two alternative models have been developed to explain this policy. One stipulates, by assumption, that the worker chooses at random in firms and searches them, and then stops searching and takes the highest offer. This is known as the "stigler-type fixed-sample" model. The other, known as the "sequential model" assumes that the individual searches one firm per period, and decides whether to take its job offer (if one is made), before searching any more firms.

In the second model, which is much closer to reality, every time the searcher observes a job offer, he/she works out the returns from taking it and the expected returns from rejecting it and continuing the search. He or she then takes the offer if the former exceed the latter and does not take it otherwise. Theoretically, the decision should satisfy the reservation wage property. In other words, the acceptance or rejection of a job offer is determined by a reservation wage, which is chosen by the individual at the beginning of the period in such a way as to maximize the expected returns from the search. If the observed wage offer is less than the reservation wage, the offer is rejected; otherwise it is accepted.

Assignment Question:

How does the issue of optimizing job search and job acceptance affect the supply of labour in the productive process?

On a much more simpler term, decisions to engage in economic activity are influenced by a group of factors all activated simultaneously. These factors include: (i) affecting the attitude to work through their effect on opportunities and incentives associated with productive participation; (ii) determining the degree of need felt for income or output linked up with economic participation; and (iii) imposing de-facto restrictions on participation. These factors are usually grouped into two categories: personal or "micro" elements, and structural or "macro" determinants. The nature and f these factors on labour supply would need to be understood by policy makers and Manpower Planners in order to institute policies groupedand strategies to adjust labour supply towards equilibrium.

II. LABOUR FORCE PROJECTION

Labour force projections are used mainly by manpower and employment planners to get information on the number and characteristics of workers who are likely to be available in the coming years. It is also used to observe the growth pattern of the labour force and the number and requirements of the new entrants into economic activity. Generally, information needed to facilitate a comprehensive projection includes age-sex distribution of the base and potential population and age-sex distribution of the existing workers by occupation, industry, educational attainment, skill levels, geographical area, and the age-specific labour force participation rates. It is however a common practice for one to limit the labour force projections to age-sex distribution.

Using this common approach, we can develop a simple projection model for the labour force. Let's take the number of persons in the labour force at a specific time in the future to be the projected population in the corresponding age groups multiplied by the age-specific labour force participation rates. This can be expressed mathematically as:

$$LF_{xt} = (P_{xt})(lf_{xt})$$

LF_{xt} = the number of persons in the labour force in age group x at time t

P_{xt} = the corresponding population

lf_{xt} = the age-specific labour force participation rate which is also called the activity rate.

Certain assumptions will have to be made which of course, would differ from country to country. Generally, these assumptions would be made by using either past levels and trends, or available projected rates, or based on the pattern of the sex-specific or age-specific activity rates in the past. Whatever the assumptions made are they should be clearly stated for beter interpretation of the projections.

One important element in the exercise is the reliability of the input data. Unless the base age-sex distribution and the estimates of current levels of fertility, mortality or migration are reasonably accurate, and the assumption for them plausible at least for the medium term, the planning mechanism will be provided with estimates of dubious quality. A second point is that projections estimates will have to be revised periodically in the light of new and more reliable data and other developments, particularly with respect to the assumptions.

Assignment Question:

Select one African State and use the available data to project the labour force by sex for a 30 year period for the selected State.

III. DETERMINANTS OF LABOUR SUPPLY

As noted earlier, one of the concerns of labour economics was the study of the ways in which the individual labourer allocates his/her resources, asserts preferences and tries to overcome constraints. Of equal concern is the way the employer chooses to combine production factors, asserts preferences for different possible work arrangement, and seeks to overcome constraints in dealing with labour. To better understand the interrelationships of these would require a deeper analysis into the economic forces and institutional arrangements which influence these two factors in the labour market. It should be noted at this stage that economic forces do not act in isolation from the institutional arrangements that have been developed to channel and to regulate them.

We would take a brief look at the way in which macro-economic policies and institutional structures and practices do affect the supply of labour in the formal labour market. On the policy side, we would look at wage levels and wage changes and government fiscal policies and its impact on labour supply. Regarding institutional forces, we would for the moment, confine ourselves to explaining the mechanism and attitudes of labour unions, and the role played by national and sectoral human resources management institutions.

(a) Economic Forces in Labour Market Supply Side Analysis

(i) Wage Levels and Wage Changes

When we talk about the money wage level, there are several different concepts to which we could be referring:

1. The average wage (and salary) rate per hour worked (or paid for) or the average straight time wage rate

This is derived by weighing each wage or salary, operative at a particular time, by the number of employees receiving that wage rate and dividing the sum of the products by the total wage or salary recipients. Mathematically, this may be denoted as:

$$\frac{\sum_{i=1}^{n} W_i}{N}$$

2. Average gross hourly earnings

This would tell us what the average earnings of all labour, or a group of particular labour force members were over a given period. Technically, this may be denoted as the:

$$\frac{\text{Sum of Wages and Salaries Paid}}{\text{total No. of hrs worked (or paid for)}} = \frac{\text{The Wage Bill}}{\text{(No. of Workers) (length of period)}}$$

3. Total compensation per hour work:

This takes into account the increasingly important part of employee earnings which are made up of wages and wage supplements.

Irrespective of the concepts used, movements in the general wage level do occur overtime with their corresponding effects on labour supply. In an attempt to explain these movements, several types of economic models have been developed in recent years. The first

significant contribution to the study of factors underlying money wage movements was made by Professor A.W. Philips (1958), who concluded that a predictable relationship exists between the rate of money wage level increase and two variables: the percentage of the labour force that is unemployed, and the rate of change of the unemployment rate. Lipsey and Perry strengthened the analysis by respectively adding the cost of living factor as one of the independent variable (Lipsey 1960), and that the independent variables are all interdependent (Perry 1966).

Assignment Question:

How can we relate the conclusion of Professor Phillips to the supply of labour into the productive process?

(ii) Fiscal Policies Effects (taxes and subsidies)

Fiscal policies are combinations of taxes and subsidies or disincentives and incentives. These can be used to affect the decision of the supplier of labour though much of their impact is felt on the side of the renters of labour (demand) as we shall discuss later. Some of the ways in which taxes or subsidies can affect the behaviour of labour supply are manifested in the following forms:

- **Workers Migration:** Migration is an investment activity. Movement from one place to another implies cost, both financial and psychological. If movement occurs (assuming perfect information), it is because an incremental gain will be achieved that would warrant the investment cost. Rationally, it is presumed that the decision to move would yield more than any other investment opportunities or else, the decision to move will not be taken. Incentives could be used to increase the expected yield or to make up for any gap that may exist between the expected yield and the actual yield from moving. An example of the latter is that in some cases, workers are in the wrong places, from the standpoint of the likelihood that they will find work, or they are in the wrong occupations, from the standpoint of the nation's development needs and their personal career prospects. In both of these cases, they may be given incentives to move to some other places or occupations where the probabilities of success are higher. Conversely, disincentives can be used to minimize the rate of migration with a view of ensuring either regional or occupational distribution of Labour.

- Investment in the acquisition and assimilation of information: In the pursuit of a job search, the unemployed worker, particularly the young, makes certain investments in gathering information. The magnitude of such investments is related to the method selected by the job seeker for the search. As explained in the last section, there are two general forms in which job information is obtained. One is that derived by the process of movement among jobs already described, in which a kind of testing and discovery of the nature of work in different places or firms takes place. The other is the case in which unemployment is experienced continuously over a longer period, while the unemployed person holds out for work of a kind, or for a wage the market is not prepared to pay, until he/she is informed by this experience what it is that the market will objectively offer. This was the point made when we noted that the unemployed worker's reservation wage or aspiration level would decline with the lengthened duration of unemployment given other social eocnomic and psychological constraints.

There is in this investment activity as in all others, from a resource allocation standpoint, some optimum quantity to be devoted to the search for information. As was stressed earlier the rational person would want the optimum, but as was also rightly observed, optima are at times, altered when the values of the variables relevant to their definition are altered. Therefore, any tax or subsidy arrangement that cheapened the cost of acquiring information would shift optimal values and it could, in principle, shrink the periods within which the optimal quantum of information comes to be possessed.

Such an arrangement could take the form of a network of offices, operated at public expenses and free of charge to the users, which would be engaged in the compilation, processing and dissemination of employment-market information as can be seen, this would be a subsidy that could affect the supply of labour.

Discussion Question:

How effective are these offices in African countries and what are some of the major constraints facing them?

- **Work and leisure substitubility:** Workers allocate their time between work and leisure. Taxes may be used to make the consumption of leisure more or less expensive and, in this way, workers will be caused to reallocate their time between these two uses. The argument, which is in an accounting sense, is that any taxes or subsidies that relatively cheapened the consumption of leisures or of leisure goods would produce a marginal withdrawal of some unemployed persons from the labour force thereby reducing the size of the labour supply stock that is available for rent.

- **Human capital formation:** The point is that incentives or disincentives that encourage or discourage workers to invest in their own training could affect not only the level of labour supply stock and flow, but also its shape and quality. Human resources - physical, psychological and sociological and intellectual dimensions of skills and knowledge, are enhanced by investment in human capital. Sometimes this is done by enrolment in training and educational institutions, by investment and health facilities and sources; by investment to environments degradation protection etc. all of which require explicit capital outlays. More often this is done by offering challenging jobs which offer an opportunity of learning on the job, where capital expenditure are only implicit and take the form of a negative increment of earnings on current account to cover training cost. In either way, investment decisions on the part of the worker or potential worker are made by relating investment cost to the discounted incremental. Accordingly, subsidies to investment and taxes upon non investment can affect the magnitudes of cost or of income streams, and thereby cause the formation of more human capital through the alteration of the parameters of choice.

(b) Institutional Forces in Labour Market Supply Side Analysis

(i) Unions and the Supply of Labour

We would examine the supply side of the labour market when workers act in concert, forming a Union to represent their mutual interests rather than vying with each other for employment opportunities. The major point to stress in this regard is that typically, unions have the power to raise wages and determine other employment conditions in the short run. The logical thought is that in competitive equilibrium, business earn just enough revenue to pay for each factor of production its reservation price. Secondly, the demand curve for final output is generally not perfectly elastic, but rather downward sloping thus leading to a less elastic demand curve for labour than in the case of a single competitive firm. This is particularly true in cases where unions are used to control the flow of labour to a monopoly, a competitive industry or to a group of firms. It is more true if the union has a monopsony power.

At the practical level, union power gives a measure of the extent to which the union influences managerial decisions towards the way and manner in which members of the union want their labour rented and used. In other words acting as an institution, suppliers of labour can set and operate within the framework of their own terms of employment. More frequently, such terms include wages that employers pay; the quality of labour offered, the capital/output labour/output, and capital/labour ratios used in the production operations; the flexibility and cost of changing techniques of production; and the flexibility in arranging work schedules and labour allocation.

In most cases the strategy used to exert union power is through work stoppage (strike). There are other strategies which are used by unions, especially in the industrialized countries to control the flow of labour in and out of the productive process. For example, unions can influence legislation to restrict foreign migration into a country. The object is to reduce the supply of labour and accordingly increase wages with the hope that domestic workers living standard would be safeguarded. Another strategy used is the granting of license to reduce labour supply to an occupation or industry. This raises the cost of entry and thereby reduces the flow of labour supply.

(ii) National and Sectoral Human Resources Management Institutions

- Government power - Through decrees and legislation, labour can be moved from occupation to occupation, or from industry to industry of from one region to the next. For example, the government could put aside a particular piece of land in a particular area to be used exclusively for industry or for agriculture or for wild life conservation. The location of the relevant enterprises in these places would pull labour with the required skills as well as supportive labour services.

- Activities of human resources management organs - The work of organs responsible for human resources planning, development and utilization could affect the supply of labour. First, the necessary job information can be obtained from some of the institutions which could be used to guide labour in supplying their services. Secondly, institutions that are concerned with human resources development are looked upon as the labour producing factories and what they do would determine the flow of labour on the market. Similarly, those institutions that manage labour utilization could influence wage rates and hence the behaviour of labour, or they could buffer labour position in relation to labour-management relations.

- Orientation of corrective institutions - The propensity to put people in prison could affect labour supply. The situation could intensify, if these institutions are limited in capacity to rehabilitate those taken out of the labour force, so that they could come back and supply their labour.

(iii) National and Sectoral Human Institutions

Religious and cultural attitudes could be major determinant forces of labour supply. In some places, such forces could, determine the participation of labour with regards to sex, age or perhaps location.

Assignment Question:

Identify existing institutional arrangements in your country that could affect labour supply and explain how that would come about.

CHAPTER SIX

FACTORS IN THE STUDY OF LABOUR DEMAND

OBJECTIVE

We shall examine in this Chapter the linkage between the demand for output, the production process and the demand for labour under competitive condition in the short run. Our objective is to observe the behaviour of the renters of labour services given the demand for the outputs they produce, their profit maximizing attitude and the options available to them for substituting one factor of production against the other to produce at least the same quantity of output. Besides the economic (technical) factors embeded within the production function (i.e. marginal considerations), government fiscal policy measures will be seen to have some implications on the amount of labour demanded by a particular firm or industry. Institutional forces such as legislation and associations to protect employers and employees interest will also be reviewed and shown to be contributors to the level of labour demanded within an economy.

After going through this Chapter, the Manpower Planner should be able to:

- **undertake labour market studies and analysis with a view to formulating policies and strategies that would affect the demand for labour**
- **develop and better apply labour demand forecasting models**
- **discuss the nature and impact of those factors that affect labour demand curves**
- **interact with employers and employers' organizations in search of viable and workable policies and programmes to balance conditions in the labour market.**

FACTORS IN THE STUDY OF LABOUR DEMAND

I. WHAT IS INVOLVED?

Three major points need to be made from the start to guide us in our analysis as we consider the demand for labour. First, the demand for labour stems from the usefulness of the current application of the qualities embodied in human beings to the productive process. As we have observed on the supply side, these qualities are highly complex and varied in terms of their management and availability. From this viewpoint, the demand for labour is a part of the demand for a complex of inputs of varying degrees of substitubility for one another for the purpose of achieving a flow of complex outputs. Consequently, labour demand is usually referred to as a derived demand i.e. it stems from the demand for commodities that labour helps to produce.

Secondly, labour inputs can be made at varying stages of closeness to the ultimate purchases of the output produced. In some cases labour is provided directly to its consumer. This is the case in many of the services areas such as professional services, household services etc. No intermediate employment relationship exists in such cases, and payments are made in accordance with bargains struck for individual services, or according to a price list drawn up under varying degrees of organization on either side. On the other hand, labour inputs are mostly provided through an intermediary co-ordinating factor, and the relationship of labour to the purchaser of the product made by labour becomes an indirect one. When the services are performed through the co-ordinating factor, the entrepreneur, the status of labour in the productive process is changed. The co-ordinator has the function of co-ordinating inputs and, in so doing takes over some of the risk and uncertainty involved in the framing of contracts with these factors.

Thirdly, we need to be clear about two concepts which are often confused when labour demand analysis are made. These are the demand for labour and the quantity of labour demanded. The former relates to the level or position of the demand curve while the later relates to the volume of labour demanded at different levels of the wage rate per period of labour availability. Within this context the demand for labour is determined not only by the demand for outputs but also by the types of technology available for the production of that output, and the decisions of employers regarding the output to be produced and the preferred methods of producing any given output. Similarly, the quantity of labour demanded would relate to the amount of labour that employers will actually employ under conditions of variability of the unit price of labour relative to the unit price of other factors of production that are substitutable for labour in the productive process.

Most of the analysis which follow are related to the quantity of labour demanded particularly, those demanded by the intermediary co-ordinating factor - the entrepreneur. As indicated earlier, the employer is often bend on asserting his/her preferences for different possible work arrangements, finding optimum ways to combine factors of production and seeking ways to overcome constraints in dealing with labour. In this chapter we shall consider in brief, those factors that influence employer's behaviour as the above-listed tasks are being undertaken.

II. ECONOMIC FORCES IN LABOUR MARKET DEMAND SIDE ANALYSIS

(i) Wage Variability in the Search-offer Model

The concept of the reservation wage as discussed in the job search model made a fundamental assumption that there is an exogenous distribution of wage offers for individuals of the same skill. This could be valid if firms would adopt an optimizing behaviour in the search environment by varying wage across firms (Rothschild 1973). Several analysis on this hypothesis have been made, and various conclusions established including the conclusion that if individuals have different reservation wages, a firm can raise the probability that a randomly selected job searcher will accept its offer by raising the offered wage.

Two factors have been identified as those which can give rise to wage variabiality across demand for outputs. The first case is one in which firms would change wages every time the demand for their outputs changes. This is least likely to occur particularly if firms hold inventories, or predict that the fall in demand is temporary. The second case would imply that similar workers have different productivities when employed by different firms. This is indeed possible: productivity may vary because some firms may chose to offer firm-specific training whereas others may not, because capital intensity, or more generally the technique of production, may vary; or simply because of the interrelation characteristics of firms and the workers.

Now, the argument is that if there are substantial differences in firm-specific productivities, firms will realize that the reason a job searcher is willing to accept their offer is due mainly to a better-than-average job match between their vacancy and the searcher. Firms may try to exploit this advantage by reducing the wage offer reasonably not to loose the well matched worker. The firm may also decide not to offer the person in the hope that a better-matched worker would come in the future. The policy therefore, is formally identical to that of the optimum job seeker we talked about earlier: i.e. the firm chooses an optimum reservation profit level and makes appropriate job offers to all searchers who, at a positive profit - maximizing wage, would yield as much profit as the reservation level. There could be a trade-off on the part of the firm. A higher reservation profit level (which means a lower wage offer) ensures higher expected profits when production starts, but it also reduces the probability that a worker's who is willing to accept the firm's offer will be found.

Discussion Question:

What are the implications of this trade-off for human resources management programmes and strategies?

(ii) Marginal Labour Productivity

In a competitive market, employers demand for labour is analyzed around marginal theories with focus on the linkage between the demand for output, the production process, and the demand for labour in the short run. The basic concepts and the analysis of how these marginal productivity theories are used in the determination of labour demand are briefly considered in Annex B of this part of the Handbook

(iii) Fiscal Measures

The role of fiscal measures in intensifying the demand for labour has been discussed in the literature on development economics. They are seen as playing an indirect role by stimulating savings and investment and thus promoting employment. Accordingly, the arguments were linked more closely to growth objectives rather than to employment objectives. A major attempt was made in 1971 principally by the ILO to re-examine the role of fiscal policy in influencing the product mix and the choice of production techniques when savings and investments are put at a given level. Since then, the literature has taken on greater significance in analysing the impact of fiscal measures (taxes and subsidies) on the demand for the quantity of labour.

As we had seen earlier, taking the pattern of production as a whole, labour and capital are two competing factors. When the cost of labour rises in relation to the cost of capital, the tendency is to replace labour by more specialized machinery and more advanced production techniques, and vice-versa. Given the existence of the alternative choices of technique, implying different degrees of factor intensity, fiscal policy can be devised to shift the choice of technique towards greater absorbtion of labour. Before reviewing some of the ways in which this can be done, it would be useful to consider one point that is gaining greater acceptance: Fiscal measures in many African countries are heavily bias against labour intensive mode of production in favour of capital intensive production techniques.

Discussion Question:

What are some of the reasons for this when there seems to be high unemployment and abundant labour?

Let us now return to some of the ways in which fiscal policies can affect the demand for labour.

(a) Investment incentives

These are measures designed, mainly by developing countries, to attract private capital from abroad for the formation of new industries under the slogan of national development. It has been well argued that investment incentives tend to generally lower the price of capital as against labour. Let us look at some of the measures commonly instituted such as exemption from customs duties and other taxes on imported capital goods; investment allowances and grants; and income tax holidays.

Customs duties - complete or partial exemption from duties on capital goods for new investment reduces financing requirements and enlarges the supply of real capital. The impact is even greater if fiscal measures (the tariff system) to adjust the exchange rates have given rise to overvalued domestic currency. This would make the price of K relatively cheaper than the price of L and simple economics state that enterpreneurs would then prefer more capital to labour in relative shares.

Investment allowances and grants:- An investment allowance in some cases, is a deduction from gross revenue, in addition to ordinary depreciation on all fixed assets. Investment grants on the other hand is an outright subsidy that is often costly to governments. The employer (investor) who enjoys these privileges would be more inclined to opt for capital intensive mode of production. First, tax reduction geared to the amount of capital investment reduced the cost of capital in the amount functionally related to the rate of the investment allowance and the tax rate. Secondly, this would increase investible resources (reduce personnel financing requirements) at little or no direct cost to the investor thereby increasing his purchasing power for capital.

Tax holidays This is the partial or complete exemption of tax payment on earnings for a specified period of time. Within itself this could have very little effect on the substitubility of labour but the situation could become serious if the provision calls for the postponement of depreciation allowances until after the end of the holiday period. In this case, the value of the tax exemption is changed by the amount of the tax applicable to the depreciation that is deferred until after the holiday period. As can be seen, this would mean employer accumulating capital in the initial years to increase the size of the benefit and of course profit.

(b) Factor and commodity subsidies

A general subsidy on factors can affect the quantity of labour demanded. For example, a wage subsidy would reduce the cost of hiring labour and therefore increases its quantity. (Note a labour demand curve is downward sloping). Labour subsidies could be based on the number of workers given general or specific training or the number of persons on the firm's payroll or on the basis of additions to the numbers

employed. Similarly, subsidies on commodities can have effects on production equilibrium shifting the production possibility curve and the employment function outward (Ahluwalia).

Assignment Question:

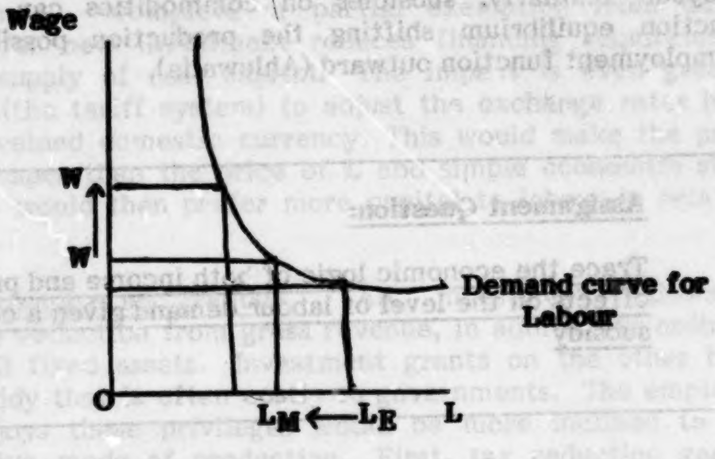
Trace the economic logic of both income and price effects on the level of labour demand given a commodity subsidy

III. INSTITUTIONAL FORCES IN LABOUR MARKET DEMAND SIDE ANALYSIS

Like the supply of labour, there are certain institutional forces that have impact on the decision of employers when asserting their preferences for renting labour in relation to buying capital. These institutions take the forms of legislation and cartels which do give rise to exogenous changes in the wage rate and hence, leading to a corresponding response to the quantity of labour demanded.

(i) Protective labour legislation

Governments at times have institutionalized measures that do interfere with the operation of labour markets. Some of these measures have direct consequences on the demand for labour. Among these are legislation that bears on manpower development, which could be implemented through fiscal policies. Others include legislation on minimum wages, hours of work and labour-management relations. Taking the minimum wage legislation for illustrating this effect, let's look at the following analysis. The figure below shows a competitive labour market before and after the imposition of an effective minimum wage statute. By effective minimum wage, we mean that the wage floor exceeds the competitive equilibrium wage so that industry employment depends on the position and elasticity of the labour demand curve. This simple illustration is self-explanatory.



Assignment Question:

Explain what is going on tn the Diagram

(i) Cartels

The power and influence of cartels or groupings are based on the theory of monopoly (single provider) and monospony (single seller). Let us remember that the economic theory of the demand for labour suggest four factors that influence the elasticity of demand for labour: (1) the ease of substituting other inputs for labour in the production process; (2) the elasticity of demand for final output; (3) the importance of labour in total production cost and (4) the elasticity of supply of other inputs. The magnitude of any of these factors will determine the extent of the variation in the level of labour demanded. Thus, to protect individual cartel members' interest (Employers Association, Labour Unions Trade Federations, etc.), cartel policies and strategies will be geared towards adjusting either up or down the magnitude of each and everyone of those factors. For example, it would be in the best interest of labour union members to seek a reduction in the elasticity of demand for their services since this would' reduce the severity of lay offs due to union induced wage gains. As expected, employers organizations would seek otherwise and thereby increase their bargaining power. The degree of strength of employees organization relative to that of employers organization would determine the quantity of labour demanded or laid off from any interaction between these two sides of the labour market.

ANNEX A

BASIC NOTIONS OF COST-BENEFIT ANALYSIS

BASIC NOTIONS OF COST-BENEFIT ANALYSIS

Introduction

The basic economic problem facing all countries, particularly our African countries, is that of allocating the limited resources (labour at all levels of skill and knowledge, management and administrative capacity, capital, land and foreign exchange) to many different uses such as current production of consumer goods and services or investment in human capital, infrastructure, industry, agriculture, education and other sectors. The nature of the problem lies in the existence of constant trade-offs. Using the limited resources in one direction (for example investment in industry) reduces the resources available for use in another direction (investment in agriculture). Secondly, the resources must be allocated in pursuit of competing and often conflicting objectives generally characterised as the removal of poverty, the promotion of growth, and the reduction of personal and regional income inequalities.

The above suggest that a critical issue in solving the development problem is the making of a choice among competing uses of resources. Several methods including value judgements have been developed and deployed in presenting this choice. One of such methods is project analysis which essentially assesses the benefits and costs of a project and reduces them to a common denominator. A common approach for this exercise is the cost-benefit analysis. Based on the premise that the limited resources should be allocated to a variety of different uses in such a way that the net benefit (benefits minus costs) to society is as large as possible.

In these notes, we shall review the basic notions and concepts of the cost-benefit analysis. Specifically, we shall discuss (i) the rationale for the use of social profitability instead of commercial profitability in the analysis, (ii) the nature of relevant costs and benefits to be included or excluded; and (iii) the investment (decision) criteria.

The last part shall consider the issue of uncertainty, sensitivity and risks that are associated with the choice.

1. Rationale for Social Cost-Benefit Analysis Within the Context of Project Planning and Development

Sound development plans require good projects, just as good projects require sound development plan. A good manager is aware of and operate within this interdependent relationship. This is well and good. But difficulties arise at the implementation stage when managers, particularly those in LDCs, do not have the needed range of information about existing and potential investments and their likely effects on growth and equity objectives. Effective project preparation and analysis, set in the framework of a broader development context, will not only provide the manager with the required information; but would also provide the vehicle for using resources to create new income at the least costs. Therefore, an utmost task of the manager is to ensure project preparation and analysis in the growth and wellbeing of the enterprise.

The extent to which this task is performed effectively is usually reflected in the selection of the project that would yield the maximum social benefit particulalry for public enterprise managers.

Until a few years ago, traditional methods of project appraisal have emphasized the growth objective, often to the detriment of the equity objective. The practical argument was that governments could use a series of fiscal measures (taxes and subsidies) to redistribute project-generated income. Theorists supported this view and argued further that for global efficiency, projects should be selected in the light of their contribution to the maximization of total undifferentiated national income. Accordingly, projects were selected on the basis of their value determined by efficiency prices. These prices were the market value of the project inputs (costs) and outputs (benefits) adjusted to reflect their "time" value to society assuming that at the margin, all units of income were equally valuable from the growth view point.

More recently, it has been argued that this operational assumption may be untenable. The crux of the matter is that there is a diversity of social, economic, administrative, and political constraints that may inherently limit the government's ability to determine and obtain the desired level and form of investment and consumption. Secondly, markets (production, labour and money) are imperfect thus rendering marginal theories inappropriate particularly for economies that are at the starting line of development. Thirdly, the concept of national development has been recast to mean the aggregation of social, economic and political development, which implies the non-separation of the growth and equity objectives.

The acceptance of these and other arguments has led project analysts to investigate, when appraising a project, the impact of that project on the distribution of income between consumption and investment as well as its impact on the distribution of income between rich and poor regions or persons. Like the traditional approach, shadow prices[1], reflecting scarcity, are derived and estimated. The difference is that such prices include the income distributional aspects between investment and consumption and between rich and poor units. Accordingly, these prices are referred to as social prices.

Efficiency prices are used in estimating what is known as commercial profitability and social prices are used to derive social profitability. From the above discussions, the former may not be an appropriate criteria for valuing projects from the view point of social or societal welfare. Invariable, private costs and benefits do diverge from social costs and benefits for a number of reasons besides the existence of imperfect markets. In such a case, the use of efficiency prices would lead to wrong selection of the most optimum project. Among the reasons are the existence of positive and negative externalities which do not feature in the computation of commercial profitability but do increase or reduce societal aggregate welfare. Secondly, the goods to be produced could be what is known as pure social goods whose production have non-rivalries (i.e. military) or which are non-exclusive or indivisible. (i.e. street light). In such a case, the private costs and benefits far underestimate their social equivalents. On the other hand, the concerned goods could be characterized by natural monopolies in which case, their long-run marginal cost curve approaches zero and far below the average cost curve (i.e. bridge or highway) thus having simultaneously a lower and declining market value and a high and rising social value. These reasons become even more stronger within the framework of socialist planning where all goods are considered pure social goods.

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[1] Shadow prices are determined by the interaction of the fundamental policy objectives and the basic resource availabilities. If a particular resource is very scarce, then its shadow price tends to be high.

The point which emerges is that managers, especially public enterprise managers, should be concerned with the maximization of social profitability. In this respect and with regard project selection, managers must find ways of transforming private costs and benefits into social costs and benefits in the valuation and comparison of projects. As indicated earlier, the transformation process would generate a set of shadow prices or social prices. However, it should be pointed out that the judicious use of such prices is an important means for assessing the growth and welfare merits of a project, but it is not a substitute for careful analysis of its technical features, investment and operating costs, organizational arrangements, market prospects, financial results, workers productivity and many other considerations relevant to the outcome of the project. Ensuring the effective execution of these is where managerial skills, knowledge and attitude are indispensible within national planning and productive systems.

2. Identifying and Determining Relevant Benefits and Costs

For our purpose, benefits are defined relative to their effect on the fundamental objectives. Costs are defined relative to their opportunity cost, which is the benefit forgone by not using these resources in the best of the available alternative investments but cannot be undertaken if the resources are used in the project. These forgone benefits are in turn defined relative to their effect on the fundamental objectives. This definition implies that no alternative use of the resources consumed by the selected project would secure a better result from the perspective of the country's objectives.

How are these benefits and costs identified? Whatever the nature of the project, its implementation will always reduce the supply of inputs (consumed by the project) and increase the supply of outputs (produced by the project). Without the project, the supply of these inputs and outputs to the rest of the economy would have been different. The examination of this difference between the availabilities of inputs and outputs with and without the project is the basic method of identifying its costs and benefits.

The exercise of identifying and determining social benefits and costs often begins with adjustments on the projected financial statement of the project entity. Two types of adjustments must be made to the tangible items on the financial statement so that it can reflect economic concepts. First, it may be necessary to include (exclude) some costs and benefits which have been excluded from (included in) the financial statement, and second, some traded and non-traded inputs and outputs may have to be revalued if their shadow prices diverge from their market prices.

(i) The nature and type of benefits and costs to be included or excluded

Direct Transfer Payments: These are payments that merely reflect a transfer of the control over resource allocation from one member or sector of society to another. Such payments do not represent direct claims on the country's resources, yet they appear in the cost streams of the financial statement. Prominant among these are: interest payment on domestic loan; the loan itself and its repayment; depreciation allowances; taxes and subsidies. These transfer payments should be omitted.

Contingency Allowances: These are allowances determined by engineering and financial considerations. To the extent that the physical allowance is a part of the expected value of the project's costs, the price contingency covers expected increases in relative prices of project items, it should be included. Otherwise, it should be omitted. Any price contingency for domestic and foreign inflation of the general price level should be excluded provided that differential rates of inflation in supplier countries are offset by currency realignment.

Sunk Costs: These are costs which have been incurred on the project before the appraisal exercise and which therefore cannot be avoided even if they are considered wasteful, and hence should be excluded. A caution is that this treatment of sunk costs may result in a high return on the investment in completing the project, but this reflects the nature of the decision being made.

Externalities and linkages: These are project effects which do not impose a cost or confer a benefit within the confines of the project itself, but affect the achievement of the country's fundamental objectives either positively or negatively. On the benefit side, demonstration and training effects are often cited as externalities. Various forms of pollution and congestion, use of water that affects yield of wells elsewhere, and side effects from irrigation schemes on health or fisheries are also among standard examples.

Price effects caused by the project also are often included in the scope of externalities. The project may, for example, lead to higher prices for the required inputs and/or lower prices for the outputs. Alternatively, the project may result in lower demand and hence lower prices for competing products of higher demand and prices for complementary goods and services. Such an outcome have come to be known as forward linkage effects if it occur in industries that use or process the project's output, and backward linkage effect in industries that supply the inputs to the project. It should be mentioned that these externalities and linkages are not easy to quantify but should nevertheless be discussed and taken into account with value judgement playing a leading role, when relevant benefits and costs are being identified.

Other external costs which are usually taken into account particularly for the more advanced countries are multiplier and international effects. The former becomes important if the economy in question is suffering from general excess capacity. Consideration of the latter is important if the project's output increase exports or substitute imports.

(ii) Adjustments for real resource use

Bearing in mind the types and nature of benefits and costs to include or exclude from the analysis, the analysts is now faced with the problem of determining the economic values of each cost and benefit. This involves adjustments for price distortions in traded and non-traded items.

Traded items are those for which, if exported,

f.o.b. price > domestic cost of production

or the items may be exported through government intervention by use of export subsidies etc. and, if imports,

domestic cost of próduction > c.i.f. price

The adjustment begins with the determination of the border price, which is normally the c.i.f. price for imports, and the f.o.b price for exports. The border price is then adjusted to allow for domestic transport and marketing costs between the point of import or export and the project site. As you can see, this would be the efficiency price which then must be adjusted further to reflect social values.

If the proposed project produces an import substitute the value to the society would be the foreign exchange saved by using the domestic product border price (c.i.f). If, on the other hand, the project uses diverted exports, then the opportunity costs to the society is the foreign exchange lost on the export foregone valued at border price (f.o.b.) To complete the process, the analysts would define and use conversion factors or the shadow exchange rate to convert the foreign exchange price to its domestic currency equivalent.

Non-traded items are those for which

c.i.f. price > domestic cost of production > f.o.b price,

or the items are not-traded because of government intervention by means of import bans, quotas, and the like.

In general, these are produced under relatively competitive conditions. Such items can be adjusted by using either the shadow exchange rate approach (SER), or the conversion factor approach (CF) or the standard conversion factor approach (SCF). If the SER is used and the market price is a good estimate of the opportunity cost or willingness to pay, then the market price should be taken as the economic value. If CF is used to allow for the foreign exchange premium, an additional step is necessary. All prices for non-traded items are reduced by multiplying them by the appropriate conversion factor. If the SCF is used and the market price must be adjusted to obtain a better estimate of the opportunity cost, then the opportunity cost must, in turn, be multiplied by the standard conversion factor.

The entire exercise of assigning economic values to traded and non-traded items requires good judgement and experience. Some of the items are tangible while others are intangible and those tangibles need to be identified. Some are tradables but non-traded and the right classification needs to be made. Each of these characterisitcs need to be considered, and depending on their specific nature and legislation, the appropriate adjustments are made.

3. Comparing Costs and Benefits: The Decision Criteria

In the last section we reviewed those costs and benefits which should be considered in the economic analysis of projects and how they should be valued or shadow priced. This section provides the basis for estimating these costs and benefits to reflect their value to the economy given government basic objectives, available resources and the time of occurance. By so doing, the questions of how these costs and benefits streams are to be compared, and what criteria are to be used in deciding whether a project represents a good use of resources are answered.

(i) The time value of money

Time is a crucial dimension when assessing projects and making comparisons between them. Project "A" might have a large flow of benefits almost immediately, but have all its investment cost concentrated in the first year or two. (i.e. purchase of trains). Another project, say "B", might have long delayed benefits, but have investment costs that are also spread out over a number of years (i.e. an afforestation scheme). An equally common problem is to make a comparison between a project with a lower initial cost but a higher running cost and an alternative with a high initial cost and a low running cost.

In both cases, a true comparison can only be made by allowing for the time factor, tracing the incidence over time of costs and benefits, and using an appraisal method that takes this into account. This process of finding the present worth of a future value is called discounting. Appropriate discounting tables have been prepared and available for use.

(iii) Decision (selection) criteria

(a) The use of discounting measures:

There are four discounting measures commonly used for selecting projects, all of which are suitable for application to manpower development projects.

Net present worth (NPW) - This is the most straight-forward discounted cash flow. It represents the present worth of the incremental net benefit or incremental cash flow stream. It may also be computed by finding the difference between the present worth of the benefit stream and the present worth of the cost stream. Mathematically, the NPW can be expressed as follows:

$$\text{NPW} = \sum_{t=1}^{t=n} \frac{B_t - C_t}{(1 + i)^t}$$

Internal rate of return (IRR) - This is the discount rate that makes the net present worth of the incremental net benefit stream or incremental cash flow equal zero. The IRR represents the maximum interest that a project could pay for the resources used if the project is to recover its investment and operating costs and still break even. It is expressed mathematically as follows:

$$\text{IRR} = \sum_{t=1}^{t=n} \frac{B_t - C_t}{(1 + i)^t} = 0$$

Benefit-cost ratio (B/C) - This is the ratio obtained when the present worth of the benefit stream is divided by the present worth of the cost stream. The B/C is not commonly used in less developed countries because the value of the ratio will change depending on where the netting out in the cost and benefit streams occurs. Mathematically, the benefit-cost ratio is expressed as follows:

$$\text{Benefit - cost ratio} = \frac{\displaystyle\sum_{t=1}^{t=n} \frac{B_t}{(1 + i)^t}}{\displaystyle\sum_{t=1}^{t=n} \frac{C_t}{(1 + i)^t}}$$

Net benefit - investment ratio (N/K) - This is the present worth of the investment. It has been used infrequently though it is the only of the four measures that permits adequate ranking of independent projects. Mathematically, the N/K is expressed as follows:

$$N/K = \frac{\sum_{t=1}^{t=n} \frac{N_t}{(1+i)^t}}{\sum_{t=1}^{t=n} \frac{K_t}{(1+i)^t}}$$

In the four mathematical formulations above,

B_t = benefit in each year

C_t = cost in each year

N_t = incremental net benefit in each year after stream has turned positive

K_t = incremental net benefit in initial year when stream is negative

t = 1, 2, ..., n

n = number of years

i = interest (discount) rate.

Selection rules to accept or reject a project for each of these discount measures exist. The respective rules are as follows:

NPW - accept all independent projects with a zero or greater NPW when discounted at the opportunity cost of capital.

IRR - accept all independent projects having an IRR equal to or greater than the opportunity cost of capital.

B/C - accept all independent projects with a benefit-cost ratio of 1 or greater when the cost and benefit streams are discounted at the opportunity cost of capital.

N/K - accept all projects with a net benefit - investment ratio of 1 or greater when they are discounted at opportunity cost of capital, in order, beginning with the largest ratio value and proceeding until available investment funds are exhausted.

(b) The use of undiscounted measures

There are four common undiscounted measures of project worth that are used. In most cases, their use could be misleading, therefore utmost care must be, taken to minimize the error margin when these are used. Those commonly used are as follows:

Ranking by inspection - This is done by simply looking at the investment cost and the shape of the stream for the net value of incremental production.

Payback period - This is the length of time from the beginning of the project until the net value of the incremental production stream reaches the total amount of the capital invested.

Proceeds per unit of outlay - This is the total net value of incremental production divided by the total amount of the investment. These are then ranked in order of high to low unit-proceed.

Average annual proceeds per unit of outlay - This is the total of the net value of incremental production divided first by the number of years it will be realized and then this average of the annual proceeds is divided by the original outlay for capital items.

4. Sensitivity Analysis: The Treatment of Uncertainty and Risks

Planning takes place before the relevant events start to happen. The consequences of a planner or manager discovering an unanticipated change too late could be detrimental to society as a whole. This poses a major problem for optimizing fundamental objectives particularly as planners and managers plan with imperfect models and data, and work within an ever changing environment. This makes the issue of uncertainty very crucial in the process of project analysis and selection.

The element of uncertainty may make it impossible for managers to achieve desired benefits and incurr expected costs during the life span of the project. In other words, actual results could deviate from expected results given the element of uncertainty. It is therefore important to investigate the impact of such deviation on the present worth of the project.

A starting point is to consider the question: how sensitive is the project's net present worth (NPW) or its internal rate of return (IRR) or the project's benefit-cost ratio (B/C) or its net benefit-investment ratio (N/K) to say:

- a fall in prices
- increase in construction and operating costs
- extension of the implementation period
- delay in its implementation
- increasing or decreasing birth rates
- changes in migration pattern.

A simple approach in answering is to vary the magnitude of the more important variables, singly or collectively, by a certain percentage derived from a probability analysis, and then to determine how sensitive the selection measure(s) adopted is (are) to such changes. Alternatively, the analysts determine by how much a variable must change for the choosen selection measure tc fall in the rejection zone. This means that the entire project appraisal exercise would be reworked against each of the anticipated changes prior to applying the decision criteria and making the final choice.

This process to which all project should be subjected, is called sensitivity analysis. Undertaking such an analysis is useful in many respects. First, it draws attention to the element of uncertainty which is an inherent reality of project planning and implementation. Secondly, it analyses the effects of risks and provides safety values against those risks. Thirdly, sensitivity analysis helps to provide a better understanding of the critical elements on which the outcome of the project depends and hence for which close monitoring is required.

As can be inferred, sensitivity analysis not only has important implications for investment decisions, it also has very important implications for project management. Let us take an example. Suppose a well prepared and appraised project turns out to be particularly sensitive to delay. If senior decision makers are aware of how sensitive the project is and how much delay will cost society in lost opportunities to generate income, management would be willing to do all that can be done to ensure that there will not be unnecessary delays in processing financing and other requests and that prompt co-operation will be forthcoming from other parties that must support the project.

5. Summary Conclusion

So far an attempt has been made to review certain basic notions and concepts associated with cost-benefit analysis. We argued that given factors such as market imperfections, positive and negative externalities, diversity of social, eocnomic, administrative and political constraints, projects must be valued by social prices instead of market prices. The underlying premise is the need to select that project which maximizes societal welfare.

It was discussed that certain items usually included or omitted in the financial statement of project proposals need to be treated appropriately to reflect its social value to society. Common among these are direct transfer payments, contingency allowances, sunk costs, externalities and linkages. The point that price adjustment must take into account those items that are tradable and those that are non-tradable was highlighted, and the role played by good judgement and experience in the entire process emphasized.

One important issue considered was the time value of money. A "birr"[1] today is not equivalent to a "birr" 12 months from today. Consequently, the adjusted benefits and costs should be discounted to reflect this reality.

Commonly used decision criteria for selecting among independent projects were also reviewed. Discounting selection measures considered were the net present worth, the internal rate of return, the benefit-cost ratio and the net benefit-investment ratio. Ranking by inspection, payback period, outlaid unit proceeds and average annual proceeds per unit of outlay were those undiscounted selection measures discussed.

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[1] The currency used in Ethiopia.

The reality of unanticipated occurrences during the implementation of the project and their impact on the project's outcome were also considered. The use of sensitivity analysis to deal with the uncertainty element was explained. Basically, the analysis involves determining the degree of sensitivity the project has in the event that certain anticipated changes occur during the project implementation period.

6. **How Relevant are all These to the Manpower Planner?** The totality of government economic development efforts is, all things being equal, to maximize growth and equity. Various sectoral activities need to be well planned and managed to bring about this goal. One of such activity is managing the limited resources earmarked for a particular purpose in the interest of society. This required first and foremost, the making of choice in the efficient use and allocation of the limited resources.

The technique of costs-benefits analysis is among the methods commonly used in the making of this choice. For the Manpower Planner, two possibilities exist. One, he/she could be directly involved in the appraisal exercise of various proposed projects for consideration by his/her authorities. Alternatively, the task could be re-assigned to the consulting firm. In both cases, the outcome of the decision is the full responsibility of the Manpower Planner. Hence. he/she should have the final say in the selection of which project or projects the earmarked limited resources should be allocated to. Needless to say, the precondition for exercising this professional right effectively is the ability of the Manpower Planner to understand the nature, concepts and methods of the appraisal technique used. It is in this light that we have reviewed the above analysis in this Handbook.

For further reading, the following books compiled are suggested:

Gittinger, J. Price, Economic Analysis of Agricultural Projects, Baltimore, Md. John Hopkins University Press, 1982

The book presents a sound, careful methodology for agricultural project analysis with actual experiences and appropriate hypothetical cases presented to further make the text understandable.

Squire, Lyn, & Herman G. van der Tak; Economic Analysis of Projects, Baltimore, Md. John Hopkins University Press, 1975.

Presents a methodology for project analysis recommending a more systematic and consistant estimation and application of shadow prices. Emphasis is placed on the discounting selection measures taking into account the impact of projects on the distribution of income both between investment and consumption and between rich and poor regions or persons.

Whynes, D.K. and Bowles, R.A.; Macroeconomic Planning, Studies in Economics No. 14; George Allen and Unwin, London, 1979.

The book gives a unified treatment of the central issues of both macroeconomics and planning and develops a theoretical and applied framework which embrace both macroeconomics and planning and, in particular, which demonstrates the essential unity of all forms of macroeconomic planning.

Wilczynski, J.; The Economics of Socialism, Studies in Economics No. 2; George Allen and Unwin, London, 1977.

The book deals with principles governing the operation of the centrally planned economies concentrating on the theoretical foundations and political operation of these economies in a modern setting.

Winpenny, J.T. and Bridger, G.A.; Planning Development Projects: A Practical Guide to the Choice and Appraisal of Public Sector Investments, ODA, H.M. S.O., London, 1983.

The book addresses those concerned with all aspects of public sector investment - the selection, design, appraisal, finance and implementation of those projects. It deals with some common difficulties encountered at the implementation stage, and stresses problems of maintenance and staffing.

ANNEX B

MARGINAL LABOUR PRODUCTIVITY ANALYSIS IN THE DETERMINATION OF LABOUR DEMAND

MARGINAL LABOUR PRODUCTIVITY ANALYSIS IN THE DETERMINATON OF LABOUR DEMAND

I. RELEVANT CONCEPTS ASSOCIATED WITH LABOUR

Labour intensity of output - The services and goods produced in an economic system vary greatly in their requirements of labour per unit of the product or service produced. Some services are performed that required little or no capital equipment. Here, the payment reflects only the cost of labour. Generally, however, labour is not used alone in the productive process, but is combined with other factors - fixed capital, land, raw materials, and entrepreneurship - in the production of goods and services. Therefore, the extent to which labour enters into their production depends on the type of product that is being produced, the type of technology that is being used, and the relative prices of labour and the other factors of production.

Output per man-hour - This may be defined as the physical volume of output produced per man-hour of labour employed. It is the total physical output in a given period divided by the number of man-hours worked during that period. This index which is not easy to compute, has some usefulness to the Manpower Planner in studying the behaviour of the employer.

First, the output per man-hour is a major source of information concerning the change in average man-hour requirements. Basically, it relates labour productivity to output and then to employment. In other words, the index gives the rate at which output per a specific period must increase in order that the particular firm might maintain its employment level (demand for labour) or the rate at which employment in the firm is likely to decline if the rate of output remains constant. Thus, a change in the unit man-hour requirement signifies a change in the dependence of employment on the level of output.

Second, it has been demonstrated that the output per man-hour gives us an insight into the relationship between labour productivity and economic growth which in turn affects the level of labour demanded. One should be careful in looking at this casual effect since the particular changes that underlie the improvement in labour productivity are not all specific to labour. Also prominant are increases in the quantity of capital employed per unit of labour, improvements in the quality of factors of production (including labour), shifts in the composition of demand from sectors of low productivity to areas of higher productivity, and increases in managerial and organizational efficiency.

Third, the movement of output per man-hour is an indicator of the rate at which money-wage rates per hour may rise while prices remain constant. This relationship may be shown mathematically as follows:

$$\frac{(\text{Money wage rate per hour paid for})\ (\text{No. of man-hours paid for})}{(\text{Ourput per man-hour})\ (\text{Price level of output})\ (\text{No. of man-hours paid for})}$$

$$= \frac{\text{Total wage bill}}{\text{Total GNP}}$$

The essence of this relationship is often embodied in macro wage policies of many countries when policies have been designed to restrain increases in the aggregate money wage rate in order to limit consistent with the attainment of other objectives including a satisfactory low rate of unemployment and high economic growth.

Characteristics of the production function - We shall only highlight those concepts that have direct relevance to the demand for labour within the framework of the production function. This assumes that the reader has a fair knowledge of the characteristics of the production function.

Let us consider a firm's production process as:

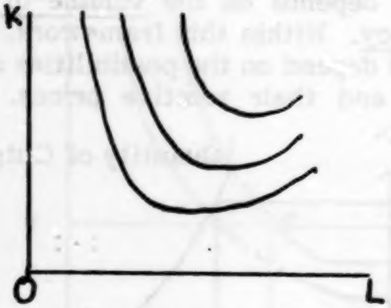
$$Y = F(X; Z,)$$

Y = units of output
X = units of input X
Z = units of input Z.

Let us next consider the production of say a given gallons of beer, Q_o. We can rearrange the function to tell us the various combinations of capita (K) and labour (L) that would give us the desired Q_o.

$$K = F(L, Q_o)$$

If we graph this inverted function, we would get the following which is known as "isoquants".



For our purpose, we need to note the following from the graph:

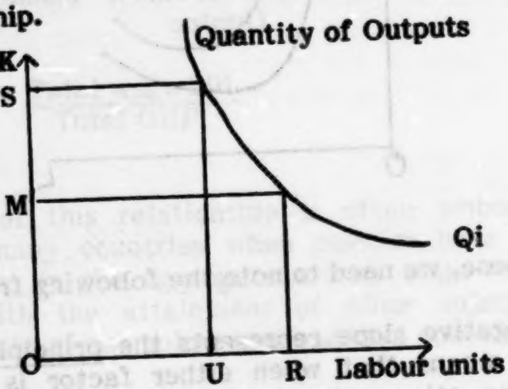
- **the negative slope represents the principle of substitution which means that when either factor is reduced by one unit the other must be increased for output to be held constant. As such, economists call the absolute value of the slope of an isoquant (at a point) the marginal rate of technical substitution (MRTS).**
- **Note that the curves are also convex to the origin. This means that the amount of labour (L) necessary to compensate for one less limit of capital (K) grows as L/K grows.**
- **the graph also coveys an economic idea that a given level of output can be produced in alternative ways. For example, it could be labour intensive or capital intensive. Thus, a firm has the degree of freedom to choose from among alternative blend of labour and capital. How such choices are made, determines the firm's demand for labour.**

With these basic concepts clarified, we shall, now see how firms use the economic force of marginal labour productivity in determining its demand for labour.

II. APPLICATION OF MARGINAL LABOUR PRODUCTIVITY THEORY IN THE DEMAND FOR LABOUR

(i) With labour and capital in supply

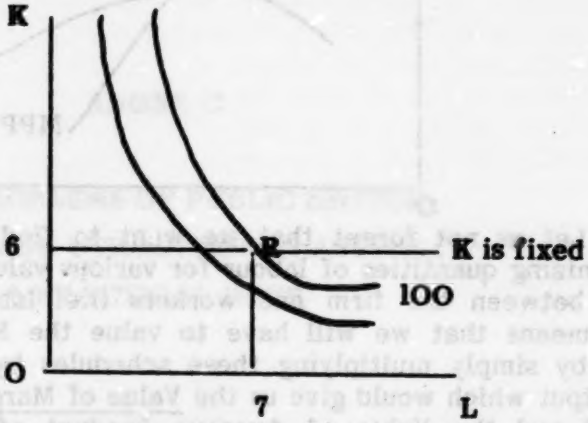
When both labour and capital are variable in supply the quantity of labour demanded depends on the volume of output and the level of technical efficiency. Within this framework, the quantity of labour unit demanded would depend on the possibilities of substitution between labour and capital and their relative prices. Let us consider the following relationship.



Notice that the combination of OM of K and OR of L can be used to produce Q_i. Similarly, the combination of OS of K and OU of L can be used to produce the same amount of output. The particular combination that will be used to produce this output would be determined by the relative prices of K and L. The lower the price of K, relative to the price of L, the greater the tendencies for the combination to be that of OS of K and OU of labour. The theoretical precise point showing the optimum combination of inputs is described by the point at which the marginal rates of technical substitution ($MRTS_{KL}$) between K and L and the relative price of capital and labour are equal.

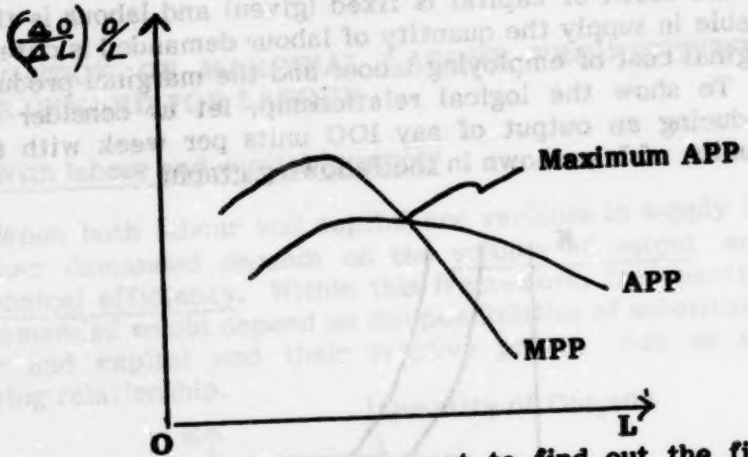
(ii) With capital fixed and labour variable in supply

When the stock of capital is fixed (given) and labour is the only factor variable in supply the quantity of labour demanded is determined by the marginal cost of employing labour and the marginal productivity of labour. To show the logical relationship, let us consider a firm that is producing an output of say 100 units per week with 6 units of K and 7 units of L as shown in the following graph:



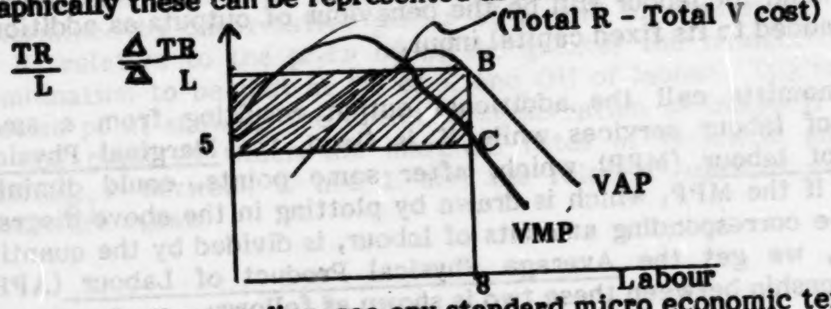
Let us suppose that the wage rate falls due to, say, the influx of cheap labour. This of course would reduce the firm's cost of production which in turn would provide an incentive to expand output. Our firm is interested in profit, and would therefore only expand output if the value of the additional production would be greater than its cost. As we know this value is equal to the extra output multiplied by its price. Since the output is beyond the direct control of the firm which is in a competitive market the crucial determinant of its demand for labour will be the behaviour of outputs as additional labour is added to its fixed capital input.

Economists call the additional output resulting from a small increase of labour services while K is fixed, the Marginal Physical Product of labour (MPP) which, after some points, could diminish in value. If the MPP, which is drawn by plotting in the above diagram against the corresponding amounts of labour, is divided by the quantity of labour, we get the Average Physical Product of Labour (APP). The relationship between these two is shown as follows:



Let us not forget that we want to find out the firm's profit-maximizing quantities of labour for various values of the wages agreed upon between the firm and workers (i.e. labour demand schedule). This means that we will have to value the MPP and APP. This is done by simply multiplying these schedules by the equilibrium price of output which would give us the Value of Marginal Product of Labour (VMP) and the Value of Average Product of Labour (VAP). Since these are multiplied by constants, their shape would remain the same. Now, the firm's ultimate profit maximizing decision is to find the level of production at which marginal cost equals marginal revenue, and marginal revenue equals price. Similarly, the firm will hire labour until the marginal cost of labour (the wage rate) is equal to the marginal revenue it creates (VMP).

Graphically these can be represented as follows:



For further reading, see any standard micro economic text.

ANNEX C

SOME PROBLEMS OF PUBLIC SECTOR MANPOWER UTILIZATION IN AFRICA : A PRACTICAL NOTE

SOME PROBLEMS OF PUBLIC SECTOR MANPOWER UTILIZATION IN AFRICA: A PRACTICAL NOTE

I. INTRODUCTION

The purpose of this Annex is simply to outline some of the main manpower utilization problems as experienced in most African countries. The effect of each problem is more serious in some countries than in others. Some of the problems are by no means peculiar to only African countries. The main attention here will be concentrated on trained manpower and its utilization in the public sector. It is assumed, that trained manpower is, in general, more effectively utilized in the private sector where remuneration is closely related to largely measurable productivity parameters. It is not being claimed in this assumption that pockets of inefficient utilization of manpower are not to be seen in private businesses. There are, but are less rampant than in the public sector.

We will also touch upon some of the problems of inadequate utilization of unskilled manpower with special reference to manpower in the rural sector.

II. UTILIZATION OF TRAINED MANPOWER

1. The Rationale for Manpower Utilization

Trained manpower is human resources on which much material resources have been invested to develop its innate qualities and to bestow upon it special skills. This investment has to show good returns. In any case, employed manpower has to be utilized in a manner that ensures efficiency in resource use. It is, therefore, in the mutual interest of both workers and employers of labour that available manpower be efficiently utilized. It is in pursuing this mutual interest that the national objective of optimum utilization of all human and material resources for development can be fostered to secure maximum returns to national development effort.

2. Factors that Influence Manpower Utilization

Problems of inefficient utilization of trained manpower originate from different sources, with each source, exercising varying degrees of adverse influence. For convenience of analysis, the various factors and forces influencing manpower utilization as experienced in African countries will be grouped under the following categories: work conditions; organizational constraints; and personnel problems. These are elaborated below in summary details:

(i) Work conditions

The conditions under which trained manpower is employed and in which it actually operates influence its productivity, both in quantitative and qualitative terms. The following work conditions are considered:

(a) Labour productive effort will not reach optimum if other co-operant factors are inadequate in quality or quantity. Inadequate physical facilities and of material supplies such as office space, desks and equipment, etc., will prevent workers from making full use of their productive capacity. Examples are: overcrowded offices where precious time is wasted in tracing files and misplaced papers, where lack of ample elbow space handicaps efficiency; lack of supplies due to poor inventory and stocking of supplies may keep operators idle for days until new supplies are rushed in; the location of departments and branches of the same department in different cities or geographical zones in the same city involving time wasting in mails and personal contacts over distances; workshop arrangements giving room for frequent accident and absence from duty due to these accidents;

(b) Lack of adequate financial resources is often at the base of inadequate physical facilities and material supplies which handicap full effort in labour utilization. Shortage of funds or false economy may result in failure to purchase adequate workshop equipment, buy spare parts for service vans and vehicles that play a vital role in the production process. The effect is that the men who should run the workshop, drive the vehicles, implement a development project, may be idle for some time or even unemployed until supplies are purchased;

(c) Inadequate staff resources for efficient operation may generate incapacity in operational services. In particular, the shortage of supporting staff such as nurses and other para-medical personnel, the shortage of secretaries, research assistants and of other supporting staff frequently results in highly trained manpower being compelled to share his/her time doing routine and clerical duties. The consequence of such a situation is an overall reduction in the productivity of professional and managerial staff that lack adequate supporting staff;

(d) Inherited colonial system of hours of work, holidays sanctioned by Western culture and economic system as well as overgenerous leave arrangements affect manpower utilization in post-independence years in countries where these practices have continued to prevail without reform. Civil Servants have been encouraged in some countries to work only six hours a day or 34-40 hours a week whilst their own countrymen in private sector employment conveniently work eight hours a day or 44 hours or more a week. Yet the former category of workers would still enjoy 4-6 weeks annual leave, while the latter would be satisfied with 2-4 weeks;

(e) Relative status and varying renumeration for different occupational categories affect the intensity with which low paid labour allows itself to be used. Low paid teachers, technicians, office messengers, semi-skilled labour, etc., conscious of the high pay packets of their superiors, naturally feel disinclined to put full effort into their work;

(f) Uncertainty and a feeling of job insecurity sometimes prevent competent individuals from seeking employment to given posts or from using their initiatives and taking decisions that could bring them into criticism and political recrimination. In a number of African countries unpleasant situations have given rise to the emigration of highly educated citizens to countries of asylum usually engaged in "unproductive" academic research and other jobs while their economy stagnates;

(g) Traditional social values and customs in countries which are not yet effectively reconciled with the requirements of modern economic systems (or what may be called the "economic culture") tend to affect workers' sense of duty and responsibility as well as their disposition to hard work. For some people certain categories of jobs are regarded as of low status. Traditional social customs and practices sometimes do encourage absenteeism, for example, by expecting one to be absent from duty in order to attend funeral or marriage ceremonies of the kinship group. Tribal and family loyalty which sanctions preferential treatment of one's kith and kin may encourage nepotism in staff recruitment, placement and promotion. Nepotism may frustrate others lacking "godfathers" in their place of work and the frustration may result in lower productivity;

(h) the social conditions of rural communities is particularly unattractive to educated citizens who prefer city life and convenience and the advantage of being seen frequently by those who count and where promotion and recognition are more readily attainable. The result is a concentration of trained personnel in towns and cities, vying among each other for available jobs while the rural areas where their services are most needed and where their efforts could yield greater results are virtually abandoned;

(j) A healthy body and a healthy mind together make labour give of its best. The economic value of sound health and good nutrition for workers is today generally realized. Wise private employers provide for these services and the public sector generally also provides for the promotion of better health conditions among workers. But low wages act as countervailing forces for the low income groups by their inability to afford the health and nutrition facilities for building up their working capacity.

(ii) Organizational constraints

Trained manpower operates under given organizational structures and procedures. The nature of this operational mechanism may either facilitate or hinder workers' effort. The structure and facilities of a man's house virtually determine his living habits in the home.

Organizational structures and procedures are established for given production or service functions and goals. When goals change or are modified, structures and procedures must equally get modified or production process will fail to deliver the end products desired.

Most African countries are operating inherited administrative structures and procedures. They are, however, operating new functions of promoting rapid economic growth and social change in addition to the pre-independence function of maintaining law and order. Unfortunately, they have not had time and courage to completely overhaul these inherited structures in order to redesign them to suit the new developmental functions of government. In consequence, their administrative operations are impeded by constraints generated by the disharmony between structures and new functions - functions that require modern production processes and service procedures, and the test of efficiency in effort and investment.

Some of the more obvious organizational constraints are:

(a) Organizational structures that permit the allocation of new functions along traditional jurisdictional lines with the least regard to the capacity to discharge the new functions with maximum efficiency. The Ministry of Finance may be given the responsibility for overall national development while science and technology may be assigned to the Ministry of Education. Technicians and professionals operating these new functions may be constrained to follow established procedures and develop a mental outlook, closely related to the established norms and concepts, of their ministries. The result inevitably is "like father, like son", and "new wine in old bottles". The men that run the new functions may find their initiatives discouraged and unable to innovate;

(b) A hierarchy of authorities, a system of directors, deputy directors and an endless chain of chiefs of divisions sometimes results in a maze of work procedures and over-establishment that "supermen" are required to co-ordinate the work of co-ordinators and supervisors. Every bureau or department is a little empire, having its own sanctions and procedures. Red tape is the established old way or procedure for getting a job done and strict adherence to these procedures is insisted upon. It is sancrosanct and new ways that save time, labour and money are not readily considered. Overstaff is a situation of having too many hands for limited operations. For all hands to be engaged, procedures must be further complicated. It is not unusual for people to be sitting on each other's laps to get work done;

(c) Lack of precision in the definition and demarcation of jobs encourages meddling and hesitancy in using one's initiatives. The meddling may result in the duplication of operational activities, and so give rise to waste in resources and labour time, uncertainty over one's responsibility and job schedule implies an inability to plan a rational use of one's time;

(d) Administrative structures may suffer from the absence of a built-in mechanism for the delegation of authority and responsibility. It may also suffer from lack of capacity for supervising delegated functions, a weakness further accentuating the fear to delegate. The hesitancy to delegate authority to subordinates may be due to the illusion of possible rivalry and challenge to authority when subordinates acquire experience through higher responsibility. Decision may be over-delayed, the implementation of a project handicapped or an important interview with a foreign educator or financier may be missed by a ministry simply because, in the absence of the Minister neither the political assistant nor the civil head in the ministry had authorization to receive the visitor or financier and negotiate on behalf of the Minister. Similarly, field work may be delayed and field men partially idle because they had no authority to take certain decisions or secure the co-operation of other field service men of other ministries unless first cleared by Head Office;

(e) Frequent transfers between jobs and in work schedules, as well as too rapid promotions under the pretext of Africanization may result in inadequate seasoning experience in the operation of given functions of high responsibility. On the other hand, poor promotion prospects and inadequate career prospects as in the teaching or nursing professions frequently result in a high staff turnover. The better equipped personnel leave for better positions, leaving behind those of second grade capacity. Invariably, productivity in a "depressed service" will tend to be low and such a service will remain unattractive to the ambitious and talented.

(iii) Personnel problems

Where personnel is recruited on the basis of merit, placed in a work schedule related to fields of training and capacity, where a personnel development programme exists for the training of staff for higher level responsibility, and where a general esprit de corps has been fostered in the organization through mutual understanding and personal relationship, the prospects are that employees will enjoy their jobs, see a future in their employment, respond to incentives and endeavours to contribute their best to the aims and goals of the organization in which they are employed. Otherwise, going to work, is unpleasant for the employees.

Important personnel problems affecting the efficient utilization of trained manpower are:

(a) Prevailing inefficiency in the machinery for personnel recruitment and placement do prevent the adequate matching of staff experience and training to the requirements for given jobs. Placement which gives very limited opportunity for trained men to use their experience, training and capability to the fullest as well as inadequate grading on recruitment commonly lead to frustration which affects the level of staff performance;

(b) Lack of personnel development programmes, including in-service training facilities aimed at improving performance efficiency, may lead to a flagging of interest in employees and a reluctance to give of their best. Where officials are allowed to fend for themselves through self-improvement without dovetailing their study programmes to the official staff development programme, the employer's time may be used for private study. Such is the case when junior clerks preparing for examinations hide textbooks under files, spending a good part of the working hours reading their textbooks than in handling official business;

(c) Procedures and parameters for assessing individual staff performance and capacity, for identifying and taking advantage of staff with initiative and unusual merit are more efficient in some countries than in others. In most African countries the necessary machinery is not only underdeveloped and colonial, but it is further weakened by tribal and political prejudices as noted earlier. Seniority rule, personal relationship and political factors are often more dominant in decisions on promotions and placement than demonstrated capacity and merit;

(d) Human relations between superior officers and their subordinates as well as among superior officers in terms of the candidates they respectively support, affect not only decisions on promotions and placement but also the ability to generate a cooperative spirit in others and get them to work with interest and devotion. A supervisor's capacity to identify personal problems affecting staff level of performance, to suggest remedial measures and foster self-confidence to encourage and give due recognition to personal efforts may go a long way in ensuring higher productivity, more interest in jobs and a higher level sense of responsibility;

(e) Inadequate staff supervision may breed practices which reduce the operational output of workers. Because a supervisor takes less pains in checking the performance of his/her subordinates, develops no rapport with staff, he/she comes to work half-an-hour late or leaves his office before official closing time, finds odd excuses to be off duty periodically, the subordinates will naturally take their work less seriously, idle away the time when the supervisor is absent, take less pains in their own work and take to practices resulting in low effort;

(f) A further requirement for effective personnel administration to which less attention has so far been devoted is staff inspectorate service and periodic review of staff patterns, performance and requirements. This should provide a basis for the analysis and programming of current personnel utilization and of future personnel supply and demand. It should lead to evolving improved methods and procedures for job performance. A weakness in personnel administration in many African countries is that periodic reviews of establishment patterns in relation to tasks to be performed and efficiency in resource use hardly take place. The personnel or establishment office itself is often inadequately staffed and may be headed by people whose main qualification is long years of service in the establishment division rather than any experience in the use of modern management techniques in personnel administration. The division or office frequently lacks specialists in personnel research and recruitment programming, staff development, job analysis and job description, job procedures and job methods. Without these specialists the establishment division cannot hope to develop a staff capability for ensuring an optimum utilization of trained manpower resources.

III. UTILIZATION OF UNSKILLED MANPOWER

Trained manpower constitutes a small fraction of the available active population. Some three-quarters or four-fifths of the latter are in the rural communities. In other words, the bulk of the manpower available for development resides in rural communities and it is untrained and illiterate. For sustained economic transformation and social change, this majority labour force in the "majority economy" has to be effectively utilized.

Studies of African rural economies have revealed large scale seasonal unemployment as well as underemployment for most part of the year. With improved production techniques, new economic opportunities linked with traditional economic activities, adequate infrastructure provided by fairly good roads, credit and marketing facilities, adequate supervisory services on production methods and marketing arrangements, as well as an educational system that relates research and training to the needs of rural development, the unemployment and underemployment in rural communities can be reduced, and thus promoting intensified and full use of rural manpower.

As has been recognized over and over, both development leaders and economic planners have hitherto concentrated their efforts on the manpower requirements of urban minority economy. Little or no attention has been given to the education and training required for agricultural modernization. The implication of this is not just the introduction of the tractor, fertilizer and wage labour to agriculture, but the development and modernization of the totality of the rural economy in a manner that will give gainful employment to all able-bodied rural manpower and create an economy that will be both self-sustaining and inter-dependent with the urban economy. For rural manpower to be fully and effectively utilized the rural economy must be viable. Few countries and development planners in Africa have so far discovered how to achieve such a viable rural economy in which all aspects of development have to be planned comprehensively and implemented as an integrated development programme.

Rural manpower is underemployed not because rural Africans are born lazy and unwilling to exert effort. They are partially idle because they see no new economic opportunities worth the effort; they lack the technical skills and know-how to resolve their common problems of debilitating diseases, insect pests, lack of communications, etc.; they see no reasons why old customs and practices should be abandoned; they lack the means to raise the general social conditions of the rural community and so make life more worth living and exerting oneself to improve on standards reached. The problems of inefficient utilization of rural manpower is therefore much more complex than those of urban or wage-earning manpower.

To resolve the rural manpower problems, development leaders (politicians), planners, educators, sociologists and administrators have to work in concert more than has been done hitherto. An increasing number of trained manpower at all levels and with training in skills needed for rural economy must be available for deployment to rural communities to create better economic opportunities for rural peoples. The utilization of material resources for employment creation and the improvement of social conditions have to be reappraised for priority allocation to the majority economy. This seems to be the only effective way to ensure a better and fuller utilization of the majority workforce and secure for them gainful employment in the majority economy.

PART THREE

QUANTITATIVE ASPECTS OF MANPOWER PLANNING

CHAPTER SEVEN

TYPES, SOURCES AND UTILITY OF DATA AND INFORMATION REQUIRED FOR HUMAN RESOURCES PLANNING AND PROGRAMMING

OBJECTIVE

The objective of this Chapter is to provide a clearer understanding of the significance and magnitude of data and information for human resources planning and programming, and to show their usefulness to the Manpower Planner. It identifies the type(s) of data required, where they could be found and how to use them in the process.

The Manpower Planner should be able to do the following after going through the Chapter:

- **identify and locate rationally the type of data and information to perform a particular task**
- **plan the co-ordination of data for human resources planning and programming**
- **participate in the design and establishment of a data base system**
- **better organize the process of data collection.**

TYPES, SOURCES AND UTILITY OF DATA AND INFORMATION REQUIRED FOR HUMAN RESOURCES PLANNING AND PROGRAMMING

I. KNOWING YOUR DATA AND WHERE TO FIND THEM

Fundamental to any manpower planning exercise, would be the availability and utilization of relevant statistical data and information. Human resources planning has broadened in scope, and hence, the amount and type of data required should respond accordingly. In the first instance, in identifying the type of information, we should be concerned with those factors that affect both the supply and demand sides of the labour market. Factors such as legislation, taxation, productivity, basic needs, population trends, labour unions, etc. would have to be considered. Secondly, the type of data and information could be stratified by their base. That is, they could be grouped as demographic, social, economic and financial. By so doing, their collection process could be made much simplier.

The sources for such data vary, and attempts must be made to exploit as many of these sources as possible to obtain the desired type of data. Among the common sources are population censuses, manpower surveys, household surveys, administrative records of governments and enterprises, research papers and publications. The bottom line in all this, is the ability to "dig" out the needed information from these sources, have it processed and using it within the planning model. Quite often this ability is lacking, and even if it were, the sources are not adequately treated, with the combined effect being incomparable and meaningless data. This poses among other things, the problems of storage of data source documents, careful planning and execution of censuses and surveys, and consistency in operational definition of basic concepts.

II. WHY DO MANPOWER PLANNERS NEED STATISTICS?

Generally, a Manpower Planner needs statistics and information for one or more of four primary reasons. First, the planner finds them useful to evaluate current manpower supply and demand situations relative to national policies, goals and objectives. Second, manpower statistics are the basis for estimating future manpower resources and requirements. Third, they are useful for identifying manpower development and utilization problems with a view to formulating and/or reformulating policies and programmes to redress identified problems in the light of national needs. Finally, manpower information do assist in providing vocational and career guidance to ensure an effective distribution of skills and careers within sector and region.

Consequently, the types and structure of data and information required for manpower planning should be such that they provide, or help to provide, answers to a number of questions, among which are the following:

(i) What are the current and future manpower and employment situations given national development objectives?

(ii) What are the size, composition, qualities, level of diversity and aspirations of the present and future work force and how best can these be adjusted for maximum productivity?

(iii) Given a growing population, what can and should be done nationally to (a) improve and maintain the quality of labour, (b) satisfy the equilibrium conditions of the labour market; and (c) improve and maintain the quality of education and training?

It is clear that manpower planners will have to develop the abilities to: (i) identify the types and forms of data and information required, (ii) locate, process and analyse available administrative and quantitative data and information, and (iii) collaborate with national data collectors for a systematic and periodic collection of statistics and other information.

Perhaps the inabilities of African Manpower Planners to perform these three important tasks have given cause to the consistent result of data deficiency in Africa for manpower planning purposes.

III. AREAS OF INTEREST TO THE MANPOWER PLANNER FOR WHICH DATA WOULD BE NEEDED

As we already know, buyers and renters of labour do negotiate around a package of human values consisting of skills, knowledge, attitudes, kinet and efficiency. It is, therefore, the task of the Manpower Planner to assess, match and project the demand for and supply of these human value resources. To perform this task, the Manpower Planner should judiciously analyse those factors that influence labour demand and labour supply functions. The general nature of these factors are shown in the diagrammes below. These factors as they are, ought to be of utmost interest to the Manpower Planner and those for which statistical data and other information need to be assembled and processed. They are particularly used to guide manpower policy formulation, policy management and policy administration. It should be noted that the combined effect of these factors not only shift the demand and supply curves of labour outward, but also determines the quality level of labour.

Fig. 7.1 **Factors Affecting Demand for Human Skills, Knowledge, Attitudes Kinet and Efficiency**

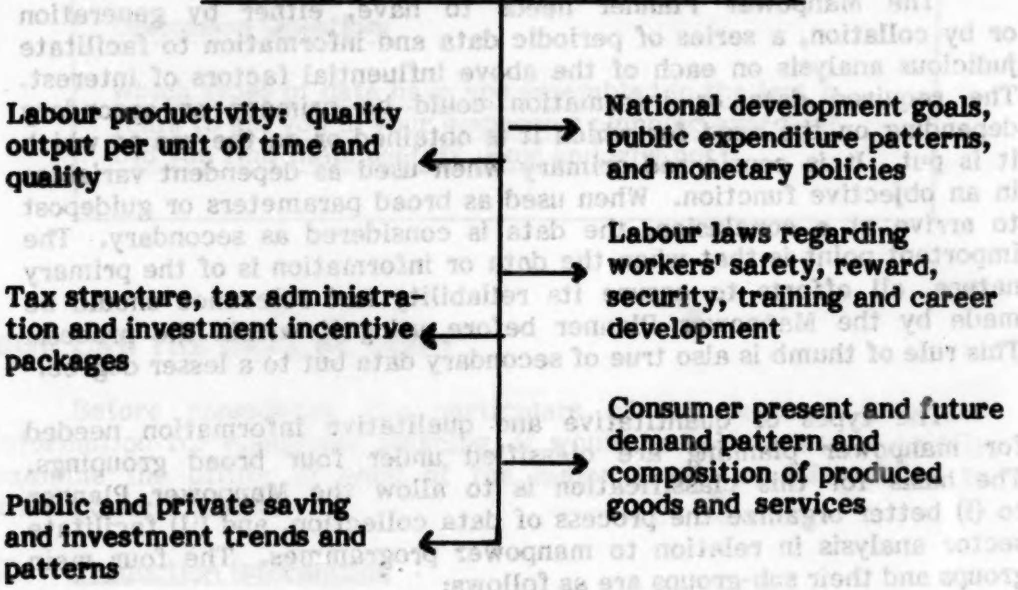
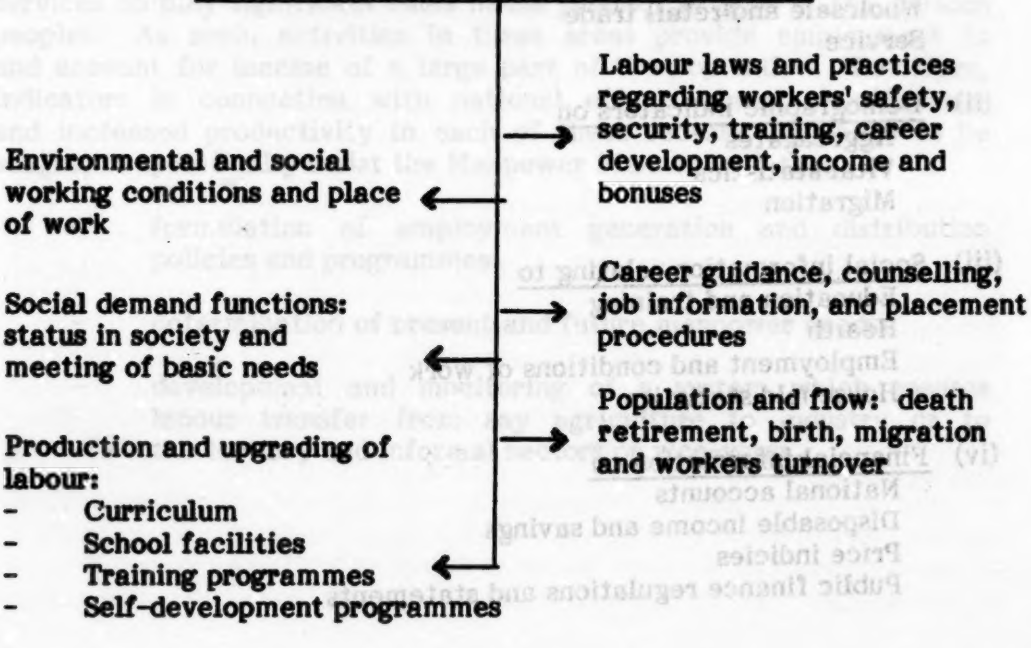

Labour productivity: quality output per unit of time and quality
National development goals, public expenditure patterns, and monetary policies
Labour laws regarding workers' safety, reward, security, training and career development
Tax structure, tax administration and investment incentive packages
Consumer present and future demand pattern and composition of produced goods and services
Public and private saving and investment trends and patterns

Fig. 7.2 **Factors Affecting Supply of Human Skills Knowledge, Attitudes Kinet and Efficiency**


Labour laws and practices regarding workers' safety, security, training, career development, income and bonuses
Environmental and social working conditions and place of work
Career guidance, counselling, job information, and placement procedures
Social demand functions: status in society and meeting of basic needs
Population and flow: death retirement, birth, migration and workers turnover
Production and upgrading of labour:
- Curriculum
- School facilities
- Training programmes
- Self-development programmes

IV. WHAT ARE THE TYPES OF REQUIRED DATA AND INFORMATION?

The Manpower Planner needs to have, either by generation or by collation, a series of periodic data and information to facilitate judicious analysis on each of the above influential factors of interest. The required data or information could be primary or secondary depending on the need for which it is obtained or on the use to which it is put. It is considered primary when used as dependent variables in an objective function. When used as broad parameters or guidepost to arrive at a conclusion, the data is considered as secondary. The important point is that when the data or information is of the primary nature, all efforts to ensure its reliability and relevance should be made by the Manpower Planner before using it within the process. This rule of thumb is also true of secondary data but to a lesser degree.

The types of quantitative and qualitative information needed for manpower planning are classified under four broad groupings. The basis for this classification is to allow the Manpower Planner to (i) better organize the process of data collection, and (ii) facilitate sector analysis in relation to manpower programmes. The four main groups and their sub-groups are as follows:

(i) Production information focusing on
  Agriculture
  Industry
  Wholesale and retail trade
  Service

(ii) Demographic indicators on
  Aggreagates
  Vital statistics
  Migration

(iii) Social information relating to
  Education and training
  Health
  Employment and conditions of work
  Household statistics

(iv) Financial information on
  National accounts
  Disposable income and savings
  Price indicies
  Public finance regulations and statements

Discussion Question:

Which types of data have you assembled in the last 2 years to aid you in your manpower planning exercise? Did you find them useful? How and why not?

V. HOW CAN THE DATA BE USED?

Before considering the particulars of the required data and information for manpower planning, it would be appropriate to briefly examine the utility of each of the major groups of information to a Manpower Planner.

(i) Production information

There is evidence that agriculture is the most important activity in Africa. Industrialization through import substitution on the other hand is of great concern to many African governments. Trade and services do play significant roles in the productive lives of the African peoples. As such, activities in these areas provide employment to and account for income of a large part of the population. Therefore, indicators in connection with national efforts aimed at efficiency and increased productivity in each of these sectors, will have to be sought, to specifically assist the Manpower Planner with the:

- **formulation of employment generation and distribution policies and programmes;**
- **determination of present and future manpower needs;**
- **development and monitoring of a system which ensures labour transfer from say agriculture to industry or to the tertiary and informal sectors or vice-versa.**

Assignment Question:

On not more than five pages, show how trade data could be used in the formulation of employment generation policies.

(ii) Demographic indicators

The size, nature, direction and frequency of movements and distribution of the population as well as its elements of change provide a basis for manpower planning. In as far as planning for manpower development and utilization is concerned, they are basic factors in determining the magnitude and character of the demand for goods and services as well as the extent and quality of the labour resources for their production. Regarding policy matters, the manpower policy formulator would have to study and analyse the characteristics, structure, size, and composition of the population.

This action is necessary because the direction, consistency and magnitude of changes associated with these indicators, will have implications for the development and structuring of education and training facilities as well as for deriving and manipulating equilibrium conditions in the labour market. In any case, manpower policy objectives should take into consideration the impact of population dynamics on the process of economic growth and income distribution. Finally, manpower surveys and planning models will have to be undertaken and developed respectively. This exercise relies on the use of demographic variables to provide survey sampling frames and dependent and independent variables into the various simulation models.1/

1/ A detailed treatment of the application of demographic indicators to Manpower Planning is made in Annex D as an illustration of model simulation.

In short, demographic indicators are needed for application in manpower planning to provide:

- yardstick for manpower policy formulation and management;
- variables within manpower development and manpower utilization planning models;
- sampling frames for organizing manpower surveys.

(iii) Social information:

This type of information is of great value to the Manpower Planner. Besides its usage for broad policy formulation, the nature of households, their consumption patterns, income, saving, performance abilities and productive activities do provide benchmarks for assessing the quality level of present and future human stock.

In this regard, three essential issues are of prime concern to the Manpower Planner. First, though it is often said that a sound body makes a sound mind, a Manpower Planner's pre-occupation goes beyond a sound mind to include the development of attitudes, stamina and effectiveness of the work force. The point has been made that all of these factors are highly influenced not only by education and training programmes, but also through sound health, nutritional and environmental protection programmes. Consequently, the Manpower Planner would need to collect the relevant social information for analysis purposes.

Secondly, it is now generally known that a relationship ought to exist between the specific needs of a given population and the types of goods and services made available for that population by a productive work force. This proposition imposes upon the Manpower Planner a need to ensure an appropriate and balanced education and training programme with the world of work, a task which requires the use of education and other social statistics.

Finally, income distribution profiles are accepted as major indicators for socio-economic development which is a function of labour productivity. Other labour productivity variables centred around the payment of indirect incomes such as favourable working conditions, safe working environments, etc. as was highlighted in part two. Hence, being concerned with measures that would enhance productivity, the Manpower Planner would need to assess, through the use of household data, productivity levels, trends, strategies and outcomes.

In short, social statistics would be needed to enable the Manpower Planner to assess and formulate policies and programmes that would evolve around three inter-related inputs for the enhancement of labour productivity.

These are:

- the planning and execution of adequate health and nutrition programmes;
- the content, appropriateness and distribution of education and training opportunities, facilities and programmes in relation to population dispersion, composition and national needs;
- the institutionalization of direct and indirect incentives and reward system for productive activities.

Assignment Question:

Explain the relationship between incentives and labour productivity

(iv) Financial information:

A Manpower Planner is interested in this type of information for a number of reasons. The basic underlying rationale is that financial statistics form the basis for formulating monetary and fiscal policies. Together, these two financial policies determine the expansion or contraction of the magnitude of money circulation in an economy. A resulting impact of this circulation is manifested in the fluctuation of consumer price levels with its consequential influences on the demand for and the supply of goods and services in the product market. As indicated earlier the pattern and trend of demand and supply functions of labour do respond to what's happening in the product market.

In so far as it affects the Manpower Planner, these responses are made for adjusting the equilibrium conditions of the labour market with particular attention on (a) the identification, development and projection of the types, levels, and quantity of manpower needed and available for a productive activity; (b) the determination of incentives and rewards for the types of skills, efficiency, attitudes and kinet required of a worker; and (c) the creation and distribution of job opportunities for a growing population.

Consequently, the Manpower Planner needs financial information which relates to national and personal generated and disposable incomes, savings and consumer price indices to facilitate the assessment of:

- the labour absorptive capacity of the economy;
- future and present manpower requirements by types and levels;
- employment generation strategies and options.

VI. DETAILED SPECIFICATION OF THE REQUIRED DATA AND INFORMATION

We now turn to the detailed specification of the required information. It should be stressed that the list below is not exhaustive; and that the specific type, form and magnitude of whatever is needed would depend on prevailing circumstances and the choice and objective function of the Manpower Planner. Also to be stressed is that the Manpower Planner is not expected to generate most of these information; but rather to know where they are and how to get them for use.

Production Information

(a) Agriculture

- Area and number of agricultural holdings classified according to size (total area), kind of tenure and principal activity;

- Number of agricultural holdings classified by type of power and implements used;

- Gross capital formation in agricultural machinery and equipment;
- Index of agricultural production;
- Number of persons engaged and average earnings.

(b) Industry and service

- Number of establishments, number of persons engaged classified by kind of activity, location, sex, age and size of establishment;
- Total wages, salaries and earnings classified by kind of establishment, activity and occupation;
- Index number of industrial production consumption and stocks according to industry;
- Gross capital formation, machinery and equipment capacities by type of capital goods, activity and establishment;
- Investment incentive legislation and administration.

(c) Wholesale and retail trade

- Number of persons engaged by kind of activity, type of operation, kind of business, sex, age and location;
- Value of sales and of gross margins classified by kind of activities, size of business and location;
- Gross capital formation classified by type of capital goods and kind of activity.

Demographic Indicators

(a) Aggregates

- Number of persons by sex, broad age groups, literacy, type and level of education completed, birth place, and nationality;

- **Number of persons by sex, broad age groups, location and professional status;**
- **Present and future population size by age group, sex and location;**
- **Distribution of population by kinds of households and economic activity.**

(b) Vital Statistics

- **Age and sex specific and crude fertility and mortality rates by region;**
- **Life expectancy and dependency ratios by sex, age and region;**
- **Index of population participation rates by sex, age and region;**
- **Age and sex specific crude survivor rates by region;**
- **Annual and expected population growth rates.**

(c) Migration

- **Number of immigrants classified by sex, age, occupation and nationality;**
- **Number of emigrants classified by sex, age and occupation;**
- **Rates and trends of in and out-migration;**
- **Number of migrants from region to region classified by age, sex and profession.**

Social Information

(a) Education and Training

- **Number of establishments classified by level of instruction, type of establishment, and geographic distribution;**

- Number of teachers by age, sex qualification, nationality, areas of specialization and level of institution;

- Number of students enrolled by sex, age, training areas, levels and region;

- Curriculum content and sylabus by type, level of establishment and geographic distribution;

- Intakes, promotion, drop-outs, repeaters and output rates by sex, age, location and establishment;

- Content and frequency of student counselling and guidance programmes by type of establishment.

(b) Health

- Number of patients in hospitals and health centres by age, sex and location of institution;

- Number of hospitals, health centres and hospital beds by type of institution and location;

- Number of medical and auxiliary personnel, physicians, nurses, dentists etc. by sex and location of institution;

- Capital outlays of health institutions and public health authorities by type of service and location;

- Policies, practices and capital outlays on nutrition programmes.

(c) Employment and Conditions of Work

- Number of persons employed by sex, age nationality and location of business;

- Number of persons looking for employment by age, sex, skills, occupation and education;

- Workers turnover rates;

- Wage rates, earnings, supplementary benefits and related information classified by age and sex, by occupation and kind of economic activity by occupation and establishment;

- Work injuries by place of occurence, cause, type and severity;

- Number of self employed persons by sex, age, activity and location;

- Labour legislation and union activities;

- Information on job title description by minimum education/training/working experience required for each job;

- Information on social security and welfare schemes by establishment and size of coverage.

(d) Household Statistics

- Household composition, number of wage earners and total household receipts and expenditure;

- Information about nature of household, their consumption patterns, habits and household subsistence and industrial activities.

(e) Financial Information

(a) **National accounts and finance;**

- Gross domestic product classified by kind of economic activity;

- National disposable income and outlay by economic categories showing savings or deficits;

- Final consumption expenditure of general government classified according to purpose

(b) Banking

- Discounts and rediscount rates, average interest rates, prime bank loans and advances;

- Consolidated transaction (capital finance) accounts and balance sheets.

VII. WHERE CAN THE MANPOWER PLANNER FIND THE DESIRED INFORMATION?

A population census is the primary information source for any manpower analysis since it is a total count of a country's population whose efficient development and utilization constitute the ultimate objective of manpower planning. This source of data gathering gives, in addition to other information, valuable statistics on the personal and economic characteristics of the present and future working and school-going age population.

Personal characteristics statistics such as age, sex, education, geographical location, marital status, etc. do provide the Manpower Planner with indispensable information for analysing the composition, distribution, and structure of the population as an initial step for estimating future manpower supply. Information on occupational and industrial attachment, personal income levels and migration patterns do give some indication of the economic characteristics of the labour force. Of relevance to the Manpower Planner is that when the economic characteristics data are cross-classified by age, sex, educational levels and other personal characteristics, the resulting matrix provides a much clearer picture of the composition and quality of the current and potential work force.

Given the elements of time lag and cost associated with the taking of a population census, and more importantly, the need for current and specific data, several supplementary and/or complementary sources of information are generally used for manpower planning purposes. Though they may vary from country to country, primary sources for such information are usually national government reviews and reports and administrative records of public and private institutions.

Depending on the Manpower Planner's objective and resources, a number of manpower data and information sources have been developed. Among those developed are the following:

(i) Labour force sample survey: To generate information on the number of people in the labour force during a specified period, classified by sex, age, employment status (i.e. employed, unemployed underutilized), type of worker, earnings, geographical distribution, industrial distribution, occupation, educational attainment and duration of employment or unemployment.

(ii) Establishment surveys: To generate information on the number of employees in the country and in each major area classified by type of economic activity, occupation, sex, age, average monthly or weekly or hourly earnings and average hours worked. Additional information include labour turnover frequency, output per head and capital labour ratio employed.

(iii) Household surveys: To provide information on the employment, consumption and savings status of household members classified by sex, age, marital status, geographical distribution, occupation, educational attainment, hours worked and size of household income and expenditure.

(iv) Industrial and agricultural surveys: To generate information on employment in industry and agriculture in relation to production volume detailing the characteristics of the labour force, size of operation, machines used, problems of labour recruitment and retention.

(v) Labour market surveys: To generate data on labour supply and labour demand in specific areas by occupation, establishment and location. Also information on the characteristics of job-seekers by age, sex, marital status, educational attainment as well as information on vacancies and their associated labour requirements. Information on

employment conditions, wage structures and labour laws and practices will also be generated.

(vi) National economic development and education plans: To generate information on national priority objectives and aspirations and the institutional framework within which they are to be implemented classified by sectors, industry, location and resource requirements.

(vii) Education and training statistics: To generate information on number of institutions and number of classes classified by level of education and by type of institution; number of teachers by sex, specialization and level of training or grade, number and types of, awards by type of institution and geographical distribution.

(viii) National economic surveys: To provide information on the performance of the economy, its employment absorptive capacity and national accounts statistics.

(ix) University and independent research papers: To generate information on current development in the areas of manpower development and utilization planning primarily for policy purposes. Estimates and projections of relevant data can also be obtained.

(x) Administrative records relative to the following:

- **a reporting system of vital statistics;**
- **a reporting programme on internal and external migration;**
- **social security programmes;**
- **labour union policies and practices;**
- **national and international institutional annual reviews and reports.**

Assignment Question:

Review the most current economic survey report of your country and extract the data you believe to be of relevance to the Manpower Planner, and in not more than five pages, analyse the data and determine the manpower policy implication of the data.

CHAPTER EIGHT

PREPARATION AND CONDUCT OF MANPOWER SURVEYS

OBJECTIVES

Attempt is made in this Chapter to show the complexities involved when one talks of preparing for and conducting a manpower survey. Competent staff with considerable experience would be required to perform the various tasks at the various phases of the process. The existence of such capabilities in many African countries is rare, and hence, the need for greater co-operation and collaboration in the process of data gathering. What is being said in this Chapter is but the "tip of the ice-berg". A wealth of literature on summary methods, procedures and techniques exist and could be referred to to get a greater treatment on the issues raised.

Our objective is to review the nature and scope of manpower surveys and the issues and procedures associated with their design and conduct. Special attention shall be paid to the review of issues and elements related to the various types of manpower surveys and summary activities.

After going through this Chapter, the Manpower Planner should be able to:

- **get a better understanding of the technical and administrative issues in the conduct of manpower surveys;**
- **identify and select an appropriate type of manpower survey for use in accordance with the needs and available resources;**
- **work through the various stages of survey preparation and execution with minimum supervision;**
- **evaluate survey results prior to their analysis;**
- **participate in the planning and designing of manpower surveys;**
- **establish guidelines for the development of survey content, design and operation;**
- **use other survey results for manpower planning purposes.**

PREPARATION AND CONDUCT OF MANPOWER SURVEYS

I. SCOPE AND RATIONALITY OF A MANPOWER SURVEY

(i) What does a manpower survey entail?

Traditionally, a manpower survey has meant stock taking of available and needed skills within a given economy or sector as at a specified time period. This concept has broadened over the years to reflect the positive and broader role labour plays simultaneously in the growth and management of the economy. This role emerges from the realization that effective management of the human resources (manpower) is the live blood of any economic recovery or development programme. The capabilities to initiate development ideas; prepare, execute and evaluate development projects lie with the quality, utilization and aspirations of the nation's manpower.

In other words, besides being the object of development, the human resource base from which manpower is derived, is the initiator and conductor of development. It is the collective capability of this resource that transforms idle resources into productive resources and poor nations into prosperous nations. Therefore, like any other vital resource, the flow, development, distribution and utilization of manpower will have to be well planned within the capacity and framework of national objectives.

Given that the basis for such planning is the availability of usable processed data, the concept of a manpower survey has extended beyond the traditional definition. It is now all embrasive to include the assessment of existing and prospective needs for and provision and utilization of human skills, knowledge, attitude and fitness. It also includes the provision of insights into the labour market conditions with a view to developing appropriate policies, strategies and programmes that would correct possible imbalances characterizing the labour market and enhance personal and regional income distribution and labour productivity.

Different types of surveys have emerged over the years to collect data. The problem now is in the making of a choice as to which type to use at any point in time. Generally, this choice is influenced by factors such as the objective(s) of the survey, output(s) to be derived and available resources. However, irrespective of the type chosen for use, there are sequences of survey activities which are common to all with regards the preparation for and conduct of a manpower survey, and that these would need to be undertaken.

(ii) When is it necessary to undertake a manpower survey?

Major sources from which manpower data may be derived include population, household, industrial and agricultural censuses; government and non-governmental administrative records; scholarly research papers; and manpower surveys. The presence of these and other sources introduces the issue of choice when the required manpower data is to be generated.

The central question which concerns us in this section is when should one opt to take a manpower survey as against the use of other sources for generating the needed data. There is no one correct answer to this question. It would depend largely on technical factors such as time, resources, the structure of the statistical base, and the level of effectiveness of the data gathering instruments and systems. Administratively, the answer would depend on the use to which the data is to be put. Is it needed for drawing up the next medium or long-term manpower plan or will the information be used to evaluate the progress made in the implementation of the last or on-going plan. Given these technical and administrative factors, which exist simultaneously, the answer would differ from country to country and from period to period.

This diversity of answer is minimized if the choice is to be made between the use of the survey approach and the census approach. Generally, this is where the choice is made with administrative records providing an important input to either the survey approach or the census approach. In this connexion, consensus have emerged amongst planners and statisticians that a manpower survey may become necessary if one or more of the following conditions prevail:

(i) when census information is outdated or lack sufficient details and relevant topics for manpower planning;

(ii) when continuous sources, such an administrative records, are incomplete or non-existent or are not conceptually compatible with the data required and the subject matter can be reasonably and efficiently obtained from a manpower survey respondent;

(iii) when the level of detail in geographical or subject matter terms is such that statistically reliable information can be obtained using the sample size within given financial and human resources constraints;

(iv) when certain needed analytically important relationships, such as education - labour - output ratios, labour -capital - output ratios, marginal labour productivity, the wage rate, etc. are not accounted for nor revealed in existing data systems and records.

Following the decision to use the survey approach, sequence of survey activities will have to be initiated and executed. Irrespective of the type of manpower survey choosen for use, common survey activities such as survey planning and organization, field operations and data processing and presentation need to be taken care of. We shall review these later in this Chapter.

II. CHARACTERISTICS OF A MANPOWER SURVEY

A manpower survey may differ in frequency, form and type depending on specific data needs at any given period. This diversity requires that the first step in preparing for a manpower survey is the making of a choice with regards to frequency, form and type. At times the choice is complicated by technical and non-technical factors, and hence the Manpower Planners needs to appreciate the issues and associated constraints. We shall highlight some of these in this section.

(i) How frequent should a manpower survey be?

From an operational view point, a manpower survey could be either continuous or ad-hoc in nature. The distinctive characteristics between and within the two are fundamental and should therefore be clearly understood when data gathering systems are being developed.

A continuous manpower survey is one whose conduct is scheduled regularly on a daily, weekly, monthly, quarterly, semi-annually or annually basis in response to the need for a set of specific data. Such surveys required the maintenance and utilization of an adequately developed technical and field staff, enumeration areas, enumeration units, and instruments for data collection and processing. An ad-hoc manpower survey on the other hand, is a one-shot affair within a defined time frame. It is usually in response to a specific immediate statistical need. Resource mobilization and organizational structures for such surveys are temporary. At times, it is useful to institute a series of related ad-hoc surveys particularly, given the high start-up costs associated with the taking of ad-hoc survey.

While the ad-hoc survey approach could be more cost effective, there are limitations in its usage which could conversely be regarded as advantages in the use of the continuous survey. Two of these limitations are often cited. First, the ad-hoc survey is limited in the development of institutional and field operational capabilities for ensuring a sound and continuous data base. Secondly, it makes difficult the accumulation and absorbtion of knowledge and experience necessary to efficiently and reliably organize and execute the various survey activities. Despite these, it is popular for two reasons: One, it addresses a short-run problem and two, ad-hoc surveys provide the necessary building blocks for institutional development if they are systematically planned and executed.

Chosing between a continuous and an ad-hoc survey is not only based on the advantages of one over the other, but is also a function of the country's planning machinery, resources and its data gathering organizational capabilities. For example, appropriate location, inter-sectoral relationships and inter-regional network of national statistical and planning agencies could make the use of continuous manpower survey more cost effective and hence desirable. On the other hand, the non-availability of ample time, funds and manpower could make the ad-hoc survey approach most attractive as and when the need arises.

(ii) Which form(s) should a manpower survey take?

Whether continuous or ad-hoc, a manpower survey could take on one of two forms. It could be a multi-subject manpower survey or a specialized manpower survey. In the case of the former, a number of different but related subjects are covered in the course of a single survey cycle. The specialized manpower survey on the other hand, deals with a single subject or issue. Again, the Manpower Planner or Statistician is faced with the making of a ciritical choice between these two forms of surveys.

The multi-subject manpower survey provides generally much greater economy compared with a series of surveys covering the same range of subjects. Specifically, the multi-subject survey has three advantages: (i) more efficient use is made of survey samples and field staff; (ii) travel time and cost are much less relative to the range of information obtained; and (iii) greater opportunity exist to cross-classify various related subjects which would no doubt enrich the analysis. Conversely, three major disadvantages are usually cited in connexion with the use of multi-subject surveys. These are: (i) the survey requires more training time and supervision due to the potential length and complexities of interviews; (ii) there is a tendency for complexities and delays in data processing particularly if the coverage is ambitious; and (iii) the required complexities and compromises during the design of the survey could weaken the advantages.

A specialized manpower survey which deals with a single subject or issue may become desirable to respond to a particular policy requirement. For example, the need may exist to diagnose the high level manpower training requirements for a particular industry; or it may exist for tracing graduates from certain education and training institutions with a view of determining the equilibrium between teaching curiculum and job requirements. In both cases, a specialized manpower survey could be considered more desirable.

A principal advantage in the use of this form of manpower survey is that it permits concentration on a single subject which creates a greater scope for understanding existing "cause-effect" relationships. It could however be cost in-efficient if a series of specialized surveys were mounted to obtain a range of information. The Manpower Planner or Statistician must take into account related national data needs and other on-going surveys when the choice to use the specialized survey is being considered.

(iii) Choosing from among Alternatives

The last critical choice to be made by the Manpower Planner or Statistician in the preparation for conducting a manpower survey is that made when selecting the type of manpower survey to use at a point in time. The difficulty of this choice is that there are a variety of manpower surveys which can be used to produce a series of common data for manpower and employment planning. Foremost among these are labour force survey, establishment or employment survey, labour market survey, job analysis survey, and training needs survey. Each of the above-mentioned survey which addresses a specific need could be either multi-subject or specialized as well as ad-hoc or continuous in nature.

The decision as to which type of manpower survey to deploy would depend largely upon the available resources and sampling frame, objectives to be achieved and the adequacy of the national data collection base. Therefore, fundamental to the making of the choice is a survey pre-planning review exercise between the data collectors, possible users of and other statistical officers. This review should involve identifying (i) preliminary indications of the short and long-run objectives of other surveys related to the desired manpower survey with a view to establishing possible linkages and collaboration; and (ii) the operational and administrative problems encountered during past surveys with a view to finding measures that would minimize these in the present anticipated survey.

The Manpower Planner or Statistician should have a clear understanding of the nature and scope of each of the alternative types of manpower survey. This would aid greatly the making of the choice. For example, it would be useful to know what each type entails in terms of organization and resources requirements and the types of data to be generated by each. Not having a clear understanding of these and other issues, may lead to the wrong choice of survey type which could not only result in poor planning but could also result in an eventual waste of efforts and scarce resources.

III. WHAT ARE THE MAJOR TYPES OF MANPOWER SURVEYS AND WHAT USE ARE THEY TO THE MANPOWER PLANNER?

To appreciate the point being made above we shall briefly review three major types of manpower surveys highlighting some of the key issues associated with the respective types in this section.[1] These are the labour force surveys, the establishment or employment survey and the labour market survey. As indicated earlier, the job analysis and training needs surveys are also vital manpower surveys.

(i) Labour force survey

The labour force survey provides the Manpower Planner with a picture of the work force. This includes indications of the size, mobility, trends and causes, personal and economic characterisitcs of the work force and the work force property. The survey universe is defined as all eligible persons selected from within an officially established labour force age range. In many African countries this range, which at times differ from survey to survey, is established between ages 10 and 70 for the traditional economy and ages 15 and 75 for the modernized economy.

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[1] Detailed respective manuals for conducting each of the surveys identified have been developed by the U.S. Department of Labour and the United Nations. Reference can be made to these when designing and executing a specific type of manpower survey.

The use of the labour force survey in Africa could be constrained by the problems of identification and conceptualization. The former is manifested by two issues. First, the determination of the cut-off lower and upper age points is not as simple as may seem. Besides national cultural norms, there are international conventions and regulations on the use of young and old labour. Secondly, not all persons falling within the established age range are usually regarded as members of the labour force. There are a number of people with the requisite age but who are voluntarily not interested or are prevented from participating in the work force at a particular point in time. Such people need to be identified and excluded. Generally, and following the pattern of the more developed countries, most labour force surveys have excluded from the universe inmates of corrective institutions, housewives, unpaid family workers, students, retired persons, disabled persons and voluntarily idled persons.

Regarding the conceptual problem, there are various concepts associated with the labour force survey which need to be defined and standardized within the context of the African labour market. Information derived from a labour force survey will among others, give an indication of the number and characteristics of the employed, unemployed, underemployed as well as levels and rates of labour productivity. To date, efforts to define and standardize these concepts particularly as they are applicable to the African labour market are far from being satisfactory. This poses a serious constraint on the use of labour force survey in Africa, and suggest the need for further studies and research.

The labour force survey is however crucial for providing the necessary data to project manpower supply by occupation, activity, region and industry; to diagnose the magnitude and possible causes of existing employment problems; and to formulate human resources development and utilization policies. Specially, the data derived from such a survey shall enable the Manpower Planner to:

- **assess the educational level, work experience, skills and distribution of present and future manpower requirement for national development;**
- **evaluate and project the types of jobs which must be provided within sector and industry to absorb a growing population;**
- **identify and project employment, education and training needs by industry, occupation and sector;**
- **anticipate possible constraints on development efforts which could arise from the shortages of particular manpower or from the over-production of other types of manpower;**

- determine the trends, sizes and significance of employment, unemployment and underemployment within the economy noting the presence of intersectoral differentials in marginal labour productivity.

(ii) Establishment or employment survey

This type of manpower survey focuses on production and service enterprises. It provides for the Manpower Planner basic information on each person employed including the self-employed in selected establishments and how that person relates to the activities of the establishment. The final output is an active manpower distribution matrix for the economy cross-classified by type of economic activity, occupation, education and skill levels, sex, age, average hours worked. Other vital information obtained from the establishment survey include labour turnover frequency rates, output per workers and capital-labour ratios. Such information do give a picture of the active work force which is not only useful to the Manpower Planner; but is also useful to the development planner who is generally interested in the performance and the labour absorptive capacity of the economy.

There are two critical issues, which if not carefully understood, could limit the effectiveness of the establishment survey. The first is the issue of determining the survey universe and the second relates to the data collection procedure. The first issue deals with the question of deciding which establishments to be included in or excluded from the survey. Generally the surveyed establishments are selected in accordance with predetermined characteristics from a list of sampling frame showing the name, economic activity, location, size and at times capital worth of production and service enterprises through the use of sampling techniques.

On the predetermined characteristics, the general practice is based on a cut-off lower limit indicator in terms of either the number of employees or the amount of capital worth of the enterprise or the line of economic activity. In any case, the ultimate decision as to which criteria to use would depend primarily on the specific survey objective(s) and the elements in the sampling frame. In most cases however, the Manpower Planner uses the number of employees benchmark. In this regard, the survey could focus on establishments employing at least five persons depending on the size and dynamics of the economy. The rationale for using the number of employees benchmark lies in the primary objective of an establishment survey which is geared towards the development of policies, strategies and programmes for labour productivity enhancement, training, job placement and income distribution.

Care should also be taken in developing the sampling frame for an establishment survey. The frame is usually obtained from official list of registered establishment. If care is not taken, important segments of the working population (i.e. agricultural workers, the self-employed, domestic servants and unpaid family workers) could be excluded. In countries where the population distribution concentrates in the rural subsistence sector and where an active and large informal sector of economic activities exist, such omission could render the derived employment picture of little value for planning.

As indicated earlier the procedure for collecting the needed data could become a critical issue in the outcome and usefulness of the survey. The choice for procedure is between direct interviewing, using the mail system or droping and picking up of the questionnaires. Direct interviewing could be considered most desirable but the procedure is resource intensive. Though relatively less demanding in terms of field staff man-hours, the other two procedures could be limited in the absence of appropriate control measures. For example, they could lead to double counting of individuals in cases where some workers hold more than one job in the given reference period. Also they could lead to falsified information in fear of possible tax regulations as well as to low rates of response.

Data obtained from an establishment survey would enable the Manpower Planner to perform the following non-exhausted list of activities:

- projection of manpower demand and gaps by occupation, skill requirement, industry and location;
- development and adjustment of manpower and employment planning models and projections;
- development of guidelines that would facilitate the formulation of policies, programmes and strategies for vocational training, on-the-job and apprenticeship training to enhance labour productivity;
- identification of practical problems and solutions relating to income generation and distribution within specific sectors and industry.

(iii) Labour market survey

In the labour market, as in other markets, the forces of supply and demand, whether controlled or not do reveal their pervasive influence. Accordingly, the labour market survey is a type of manpower survey that focusses on collection of data that would review pricing and non-pricing factors which generally determine the size, quality and location of labour supply and labour demand. As we have already seen in a typical labour market, such factors include, but not limited to, those shown in the following table.

Table 8.1 Factors Affecting the Demand for and Supply of Labour in a Typical Labour Market

On the demand side	On the supply side
- Labour productivity: quality output per unit of man/hour	- Environmental and social working conditions and place of work
- National development goals, expenditure patterns and monetary policies	- Social demand functions: status in society and meeting of basic needs
- Labour laws regarding workers' safety, reward, security training and career development	- Labour laws and practices regarding workers' safety, security, training career development income and bonuses
- Tax structure, tax administration and investment incentive packages	- Career guidance, counselling, job information and placement procedures
- Public and private saving and investment trends and patterns	- Population growth and flow: death, retirement, birth, migration and workers turnover
- Consumer present and future demand patterns and composition of produced goods and services	- Education and training

The diverse nature of these factors illustrate the uniqueness of the labour market survey. As shown, the universe is not a single unit as is the case with other types of manpower survey. Included in the universe are selected institutions, employed and unemployed labour, employers and workers organizations, investment and production reports, establishments, legislative pronouncements, etc. As expected, the selection of a universe could pose a major problem in the absence of factors such as sound value judgements, experience and a clear statement of the survey objectives.

Besides this problem, the labour market survey, as a manpower data gathering device, could be hampered by the lack of proper planning and organization of the survey. For example, if care is not taken, the scarce resources used could yield relatively low benefits for a number of reasons. One, a series of common information could be solicited when infact they have already been obtained by another survey. Secondly, the coverage could be enormous thus resulting in a substantial amount of inputs in terms of time, money and labour which have had high opportunity cost to society. These are compounded by conceptual problems similar to those encountered in the conduct of labour force surveys and the determination of lower and upper cut-off indicators for certain sub-groups of the universe.

The comprehensive nature of the labour market survey makes it cost-effective particularly if the survey is organized as a continuous survey. Generally, specific questions and areas of interests are drawn up for specific sub-groups of the universe taking into full account the development, supply and utilization needs of a nation's present and future labour force. If the labour market survey is well designed and institutionalized, most of the required data for manpower development and utilization planning could be generated to be complemented periodically by other types of manpower surveys. This is an advantage that ought to be explored and utilized in the development of a sound manpower data base.

Data generated from a labour market survey would enable the Manpower Planner to among other activities,

- design measures and strategies for making necessary adjustments between (i) labour demand and labour supply; (ii) the learning world and the working world; (iii) wages and productivity; (iv) knowledge acquired and work assigned;

- analyse and prepare for seasonal and cyclical savings related to the changing needs of labour for jobs and the changing needs of the labour market for workers;

- study and analyse the nature, structure and activities of union organizations and how best possible conflicts in labour-management relations can be minimized;

- study the structure, trend and distribution of nominal and real wages and other reward incentives to see their importance and general functions to labour, management and Government.

(iv) Other important surveys

In addition to the above specialized manpower surveys; the Manpower Planner can benefit tremendously from other types of surveys conducted mainly by other sectoral interest groups. Survey activities involving data collection on planned and actual inputs to and outputs from industry, agriculture and the education sectors are of prime importance to the Manpower Planner. Maximization of this benefit calls for collaboration and co-operation between the Manpower Planner and the other sectoral planners right from the planning stage through the processing stage of the survey. Job analysis and training needs surveys are also important as was indicated earlier.

Another crucial sectoral survey to the Manpower Planning is the household survey. This is generally conducted by Central Statistical Officers, development planners and officials of domestic trade. For a household survey, almost any subject can be explored and the concepts and level of details adopted to the requirements of the investigation. Among the many subjects contained in a household survey that are of direct interest to the Manpower Planner are the following:

- Demographic characteristics, including sex, age, marital status, and fertility;

- Employment activities, status, occupation and kind of economic activity;

- Employment consequences of household industries;

- Population mobility and migration;

- School enrolment, educational attainment and literacy status;

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- Health and nutritional status and access to and use of health facilities;

- Income levels and expenditure patterns of households.

So far we have considered the problems of data gathering in Africa, the justification for undertaking a survey to obtain desired manpower information and the general characteristics of a manpower survey. As indicated earlier, there are some practical sequential steps that must be taken to make the survey a successful reality following the decisions to use the survey approach, and on which form and type the survey should take. We shall consider these activities in the next section.

IV. ACTIVITIES THAT MUST BE PERFORMED WHEN CARRYING OUT A MANPOWER SURVEY

Certain kinds of functional capabilities are required for the preparation and conduct of a manpower survey. This would mean the availability of a core staff with diversed specialization in the various survey activities, such as survey planning and management, subject-matter development and analysis, sampling and survey design, field administration and data management. These activities are usually grouped under three broad activities, namely survey organization, survey preparation and survey execution.

A synthesis of what each of these three broad activities entail is presented in this section.

A. SURVEY ORGANIZATION AND PLANNING

To ensure success and effectiveness, a survey programme should be adequately planned and organized. This would no doubt require time, staff and money. The magnitude of each of these requirements would however diminish as experience is gained and survey taking institutionalized. The usefulness of the planning exercise lies in the interaction and co-ordinated efforts of a core of staff representing subject-matter, technical and administrative backgrounds and users of the survey results. This approach is essential for achieving consistency among the various elements and compatibility with the overall survey objectives and user needs.

At the general survey planning level, the staff is expected to carry out the following responsibilities:

(i) Planning of the overall survey programme in terms of the broad content and basic approaches;

(ii) Determination and allocation of financial, human resources and materials;

(iii) Setting of priorities and implementation schedules;

(iv) Determining anticipated problems and mapping out possible solutions to minimize their effect on the survey result;

(v) Preparation of cost estimates and survey budgets.

To facilitate the above functions, the survey planning group must (i) select and specify the subject-matter and (ii) develop the survey design and structure. A brief review of the issues associated with these two essential inputs to the survey planning stage would be useful in illustrating their importance.

(i) Selection and specification of the subject-matter

Regarding data requirements, the subject-matter should be determined within the context of overall government statistical plan. During this stage, users needs are translated into detailed specification. For example, a government may have an education planning programme whose development may require detailed information on the rate of increase in say high-level job vacancy by industry and occupation. In such a case, the subject-matter specialists together with other members of the planning group would have to decide on the data elements that would yield the needed information. Equally important is that subject-matter identification could reveal gaps in other data requirements which need to be filled, and give an indication as to how best the proposed data elements can be reasonably obtained.

Efforts should be made to organize and distribute the subject-matter over various surveys rounds particularly for multi-phase surveys bearing in mind (a) budgetary and administrative limitations; (b) the degree of comparability of the desired data with prior surveys in terms of content, sources, concepts definitions and standard; and (c) the level of details, precision, frequency and periodicity of the data. Also at this stage appropriate tabulation plans need to be developed as this would make it possible to (a) initiate computer and other tabulation specification, clerical coding and editing instructions; and (b) proovide valuable opportunities to demonstrate to potential users the usability and desirability of the survey results.

(ii) Development of the survey design and structure

In developing the survey design and structure, the planning group begins by taking a decision on the type and form of survey to be established. This decision will depend to a large extent on both technical and subject-matter considerations. Should the survey be multi-subject or specialized? Should it be designed to ensure continuity or should it be a one-shot deal? These and other questions will have to be answered.

With an approach identified, the next step would be that of scheduling and timing of the various topics in the case when the survey is to be continuous, and scheduling the enumeration period. The later could be heavily influenced by extreme weather conditions, availability of enumerators, business cycles etc.

Deciding on the composition of the survey universe is also done during this stage. Some judgement and experience are needed for the determination of the scope of "population" coverage in the survey. We saw earlier that besides determining lower and upper cut-off age points in defining a labour force, certain person within the accepted age range may not qualify as members of the labour force. Both of those decisions need to be made before one proceeds for example with the preparation of a labour force survey. However, they ought to be made in relation to associated costs, assessibility to the units of the universe and the possibility of obtaining the desired data from other sources.

Group Assignment:

Organize and plan an establishment survey in the service sector.

B. PREPARING FOR THE SURVEY

This stage of survey organization involves the designing of sample and questionnaire. To facilitate these two activities efficiently, the survey team begins by defining the nature of the problem to be addressed. This would substantiate, among other things, the need for the data and accordingly, serve as a justification for the required resources.

This exercise would also facilitate an advanced knowledge in what type of questions to be answered by the survey results. In practice, the problem identification session often leads to the development of a list of probable questions. Factual information required to provide the necessary answers are determined and "dummy tables" or "table shells" constructed. These would provide guidelines not only for the designing of the questionnaire, but also for the establishment of data processing procedures and coding specification. Vital to all these is that of defining, within the context of national circumstances, the survey universe, concepts and terms associated with the survey subject-matter.

(i) Designing the sample

(a) Basic Concepts

Designing sampling for data collection is a highly technical matter requiring a well trained professional staff usually referred to as a sampling specialist. Much has been written in statistical manuals and text on the hows and issues regarding the determination of sample size; the allocation of sample among strata and domains and within sampling units; and the estimation of variances due mostly to sampling errors. Secondly, since manpower planners generally rely on the sampling specialists to design the needed sample and estimating models, only those major issues such as basic concepts associated with designing a sample and the various types of sampling procedures involving the choices that have to be made are highlighted in this section.

Among the basic concepts frequently used in designing a sample are terms such as "population" or "universe", sampling frame", and "ultimate sampling units". These and others need to be clearly understood by the Manpower Planner as the understanding will not only provide better communication with the sampling specialist, but would also make the interpretation of the derived data more relevant and appropriate. For operational purposes, these terms may be briefly defined as follows:

- Population or Universe - the entire group of units constituting the focus of the survey. In the case of a labour force survey, the universe would be all those eligible as members of the labour force; and for an establishment survey, it would be all productive and service enterprises or business in the survey area.

- Sampling frame - a body of information about the universe being investigated which is to be used as the basis for selecting samples and in subsequent estimation procedures. For an establishment survey, the frame would be comprised of a list bearing economic enterprises names, location, investment size, number of employees, date of establishment, etc.

- Ultimate sampling units - the smallest unit which is the subject of the sample selection. In the case of a labour force survey, this would be an individual falling within the established age range who is either working or seeking work. For an establishment survey the ultimate unit would be the enterprise and if the survey is highly specialized say to investigate income levels within establishments, then a workers' income is known as "elementary sampling units" with the ultimate unit still being the enterprise.

(b) Types of sampling procedures

Various types of sampling procedures based on probability theory and statistical inferences exist and should be considered in planning a manpower survey. Choosing which type to use is again a thorny issue in preparing for a survey. Obviously factors such as budgetary and timing considerations, location and dispersion of ultimate sampling units, the size and nature of the country, the data requirements in the survey, and the type of field personnel and organization that are available would influence the decisions on the sampling procedures to be used from among the various alternatives. Also an important factor which needs to be kept in mind when making the choice is the trade-off between reliability and resource cost. A brief discription of the procedures used follows:

1. Simple random sampling

This is a sampling scheme with the property that any of the possible subjects of "n" sampling units from the universe of "N" units is equally likely to be the chosen sample. In other words, the scheme assigns an equal probability for each unit to be selected for inclusion in the sample. The exercise envolves drawing successively from a sampling frame an appropriate number of cases by random selection.

If the selection is based on a random process and each sampling unit has a known positive probability of being selected, then the scheme is called a probability sample. The use of a lottery method or a table of random numbers are common in the random selection process. The former method could be used with or without replacing a previously selected unit. When the sampling procedure is done with replacement, the method is known as "unrestricted random sampling". The method is called "simple random sampling" if the drawing is done without replacement.

With a very large universe, the use of the simple or unrestricted random sampling method could become tedious. In such cases, the method used is known as "systematic sampling" which involves simply the selection of every Kth unit after a random start. The choice of the Kth unit is generally arbitrary but once selected, it has a scientific implication.

2. Stratified sampling

The technique of stratification improves the sample design by making use of certain supplementary information already known about the units of the universe to be studied. Based on this information, the population or universe is classified into sup-universe, or "Strata" or "groups of similar units". Then using a random selection process, the sample units are selected from within strata.

Value judgement and the survey objective do play a key role in the development of stratas. A general guiding principle is that each stratum should be made as homogeneous as possible with respect to the characteristics used for determining the stratification and as heterogeneous as possible among strata. A resulting benefit is that the sampling specialist has greater control over the sample size as opposed to their being determined by the sampling process.

3. Cluster and multi-stage sampling

Because of the economy it creates for sampling and data collection, the use of cluster sampling is becoming popular. In this type of sample, the ultimate sampling units are chosen in groups or selected clusters of various sizes within only selected parts of the universe. Though the reliability of estimates is lower for such survey design than say for the simple random sample, cluster sampling may have an appreciable "inter-close correlation".

Cluster sampling can be considered in a way as "multi-stage sampling". This is the case when a sample of elements or units is taken from each cluster and then the ultimate sampling units are selected from that selected sample. Depending on such important considerations as the size of cluster to be selected at various stages and resource availability, the sampling design could be a two or three stage sample.

Perhaps what needs to be stressed here is the circumstances involved in the determination of the size of the final cluster. Generally, the smaller the final cluster, the more reliable the sample but the higher the unit cost. This trade-off between cost and reliability suggest the need for extreme caution in deciding the number of stages to use in designing the sample.

There are also a number of "non-probability" sampling procedures. The greatest weakness of such procedures is that the sample estimating ability can only be assessed by subjective evaluation. Low cost and convenience are their greatest advantages. One of the widely used forms of non-probability sampling is known as "accidental sampling". The use of these have in the past given some useful results but the degree of confidence in their systematic performance is questionable if not near zero.

Discussion Question:

Explain the relationship between the size of the final cluster and the reliability of the sample.

(ii) Designing the questionnaire

It is very important to know what type of questions to ask and how to ask them. Certainly the scope of the information collected through the survey would ultimately depend on the type of questions and the way the questions are presented. As indicated earlier, a prior discussion of the subject matter and the preparation of dummy tables throw light on the question type. Perhaps one of the most difficult bottlenecks in designing the survey questionnaire is that of translating the derived complex ideas and concepts into usable and answerable questions. Consequently, questionnaire design is an art and would do doubt require a great deal of experience. In this section we shall highlight some of the tips in the performance of this art.

Though the style, size, format and contents of the questionnaire may differ from one type of manpower survey to the next, or from one survey period to the next, or from country to country, there are several general guidelines that have been established to ensure a good questionnaire. These may be summarized in the following paragraphs.

(a) Types and questions to be asked

It will be recalled that a list of precise information on the subject-matter would have been developed during the planning of the survey. Questions to solicit this information must now be framed. In so doing, each question should be worded in simple, concise and unambiguous language bearing in mind the respondents' capabilities to understand what is being asked. To the extent possible, questions should be factual rather than subjective, and should be asked in such a way as to avoid any motive for falsifying answers.

There are usually three types of questions used in other surveys which are also applicable to manpower surveys. There are direct questions such as "what is the name of your supervisor"? Such questions are aimed at acquiring the final information needed on a particular issue: Secondly, there are questions directed at assuring complete information. Questions of this type are known as probing questions which are placed on the questionnaire to further explain to and ascertain from the respondent what a related question previously asked had sought. Finally, there are redundant questions intended to cross check the accuracy or consistency of the respondent's answers. For example, the respondent might be asked both for the name of the last formal educational institute completed and the award received in one question and then later on ask the respondent in another question to specify the highest formal education qualification received.

(b) Order of questions

The ordering of questions is important. If properly done, it could lead to increasing the accuracy of information and retain the respondents' interest and co-operation. A fairly acceptable order is one that starts with questions which identify the sample unit such as address or name of unit, followed with a description of the characteristics of the Unit then moving on to any detailed questions which constitute the main subject-matter of the survey.

Regarding the nature of questions and its implication for ordering, a few rules have been found helpful. Question on a given topic or which related to the same event should be grouped together. Specific questions should follow general questions and sensitive questions kept away as far as possible from the beginning of the inquiry.

(c) Length of questionnaire

The questionnaire should be as far as possible clear cut, brief and easy to answer. Care should be taken not to antagonize or bore respondents who in most manpower surveys are otherwise engaged. There is no fixed rule on the length of the questionnaire. The final outcome is linked to considerations such as efficiency and overall data requirement. This poses a dilemma. On the one hand, the rule says keep the questionnaire brief, and on the other, it says include as much information as possible without overtasking the respondent. In addition to experience, pre-testing of the questionnaire, as shall be shown later, could help in establishing the limit.

(d) Form and layout of questionnaire

The data processing experts should be fully involved in the designing of the questionnaire so as to assure its processability. The outcome of this collaboration will affect the form and layout of the questionnaire. First and foremost, questionnaires should have conspicuously on the title page an identification number. This would, in addition to field control purposes, prevent serious difficulties in performing processing operation such as data sorting, estimating of sampling and response variances and field rescheduling.

Answers can be recorded by various means and the means used either on its own or collectively will determine the form and layout of the questionnaire. Generally, the following five forms of recording answers are used:[1]

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[1] Adapted from "National Household Survey Capability Programme - Survey Data Processing; UN; N.Y. 1982, Pll.

1. Fixed-Alternative questions: in this case all possible or alternative answers are predetermined (such as yes/no) and the interviewer simply checks or circles only one of those.

2. Multi-coded questions: same as above, except that the interviewer checks or circles as many codes as apply. An example is questions enumerating reasons for something, when more than one reason may be given by the respondent to a particular question.

3. Number or value questions: here the answer is specified as a numeric value which can be directly used as the code. Examples are age, number of persons.

4. Open ended questions: here the response is descriptive either because the possible answers are too many to be precoded, or are too complex or unknown for this purpose.

5. Semi-open ended questions: these represent a mixture of types (a) - (c) with type (d). Ideally, the "fixed" part covers the great majority of responses, but provision exists for recording open ended responses where necessary.

The forms described in 1, 2 and 3 takes less space, require less interviewing time and reduces the amount of coding required after the survey. These attributes do make the fixed-alternative, multi-coded and number or value questions relatively more efficient. Care should however be taken not to bias respondent answers particularly for the pre-coded cases.

(iii) Pre-testing the questionnaire

The importance of this activity cannot be over-emphasized. As said earlier, a good questionnaire is a pre-requisite for efficiency and the collection of relevant data. Consequently, with time and resources permitting, a pre-testing exercise should be undertaken before the actual survey.

Basically, the pre-testing phase of questionnaire design is to assure that the questions are properly framed to elicit, with less burden on respondents, the desired information. In addition to this, it involves finding out the feasibility of other survey activities such as budget estimates, timing, etc. Accordingly, a well conducted pre-testing exercise will, among other things, address the following issues:[1/]

1. The adequacy and clarity of the training procedures, survey instructions and training materials;
2. The interaction between the interviewer and the respondent, indications as to whether the latter was puzzled or frightened, extent of co-operation and response;
3. The extent to which the questions moved smoothly and were easy to ask, evidence of embarrassment or uncertainty on the part of the interviewer in asking certain items;
4. Indications that some questions were clearly misunderstood, were incorrectly put because of ambiguities, or were not answered at all because of lack of information or resentment;
5. Clarity of time reference;
6. Adequacy of recording space;
7. The most appropriate respondent for various kinds of information.

A comprehensive pre-testing exercise would involve three successive stages. It should begin with having informal discussions with a few people from diversed backgrounds. These discussions should not only be focussed on the list of questions derived during the survey planning stage; but should also be aimed at finding out potential respondents' views and conception of the subject-matter to be investigated. Consequently, the experience gained from say discussions on work practices, method of looking for work, procedures for announcing and filling vacancies, could be useful to a designer of an employment survey in framing questions with terminology that are familiar to the units of the universe.

The output from these informal discussions would be a preliminary draft questionnaire. With this, the second stage of the pre-testing exercise could begin. The preliminary draft is tested by interviewing small sample of respondents with the aim to discovering respondents' attitude and

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[1/] Adapted from "Handbook of Household Surveys (Revised). ST/ESA/STAT/SER.F/31, UN, N.Y. 1984 willingness to answer the questions. For tactical reasons, each question should be asked as designed and then asked in alternative ways as this may uncover some instances of inadequate questions, incorrect working, misunderstood phrases and over technical terminology.

The preliminary draft is then reviewed and revised in the light of findings from a careful analysis of what happened in the exercise referred to above. The revised questionnaire is then subjected to the third pre-testing stage. Here, a "pilot" or "small-scale" survey should be designed and conducted using the revised questionnaire under conditions as nearly similar to conditions of the main survey. In addition to being the final testing exercise for the suitability of the questionnaire, the pilot survey would test the adequacy of field instructions, procedures for administrative, supervisory, processing and tabulating operations as well as providing a basis for estimating the accuracy of required resources. Experience gained from the pilot survey would therefore be used to prepare the final survey questionnaire with all adjustments made in relation to question type, content, format and length.

(iv) Preparing training and instruction manuals

Designing of the sample and question is not the whole story in the preparation of the survey. Planning for and developing the necessary trained field staff are also vital for the success of the survey. Accordingly, an appropriate training manual together with operational manuals for field supervisors and interviews particularly will have to be developed if the survey is not to be conducted through the post.

The training manual should relate very closely to the interviewers' manual and should be well understood by the field supervisors, who in fact, should be involved in the training of interviewers following their own training programme. Generally, the manual indicates various topics to be taken up and material to be covered. Depending on the trainers' level of experience in the conduct of surveys and national survey organization capabilities, the training manual could be detailed or in an outline form. It is however more desirable, particularly if the survey is the first in a series of continuous surveys, to have the manual as verbatim as necessary to minimize possible mis-interpretation among different trainers, supervisors and interviewers.

Training should not be a substitute for the development of field operation manuals. Appropriate supervisors and interviewers' manual, covering all aspects of the survey will have to be developed by the survey planners to serve as references during the day-to-day conduct of the survey.

Consequently they should be as detailed and understandable as best as possible. Significant among the subject matters that should be contained respectively in the two manuals are as follows:[1]

- The general background and purposes of the survey, the scope of the information, the general type and coverage of the sample, and related items;
- The administrative responsibilities of interviewers in terms of managing materials, proper planning and organization of their workload, procedures for reporting progress and problems, preparation of necessary cost reports and other administrative forms;
- Basic interviewing rules in terms of proper behaviour and dress, the need for proper identification, courtesy in interviewing persons in all walks of life, appropriate ways of introducing the survey, determination of appropriate respondent, need to assure confidentiality, and the like;
- Detailed instructions and specifications for each informational item, proper ways of asking questions, permissible types of probing, tactful ways of ensuring consistencies, methods of recording information, and types of notes and explanations needed;
- The importance of and need for minimizing non-response in the survey; including arranging for return visits, procedures for dealing with refusals, and the like;
- The instructions for listing and selection of ultimate sample units, where this is done by the same interviewers.

C. EXECUTING THE SURVEY

Let us take it that we have completed the survey plans and made all the necessary preparations for the survey. The subject-matter has been selected, questionnaires and instructional manuals have been designed and prepared. The sample design has been determined and the ultimate sample units chosen. Budgets and time-tables have been prepared and personnel requirements determined. All that remains to be done is to execute the survey. That is to collect, process and publish the data. This phase is the ultimate. It is the end which justifies the means and aspirations. Without the successful completion of this phase, one cannot say that a manpower survey has taken place. In short, the ultimate joy of the Manpower Planner and reward of resources used towards the organization and preparation of a manpower survey lie in the execution phase. Not only will this phase put to actual test the scientific design, organizational skills of the survey team and the adequacy of estimated resources, it would also yield the desired outputs of the survey.

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[1] Adapted from Handbook of Household Surveys (Revised); ST/ESA/STAT/SER/F/31; UN; N.Y.; 1984 p. 36

Two important points therefore, need to be stressed. First, survey execution activities ought to be closely linked to planned activities, resources and schedules. Secondly, the same degree of enthusiasm, if not more, that is given to the pre-execution phase should be devoted to the actual execution of the survey. Experiences in Africa have shown that most manpower survey exercises have fallen short on these two important considerations. The result, of course, are manifested in wasted resources and loss of faith in the data gathering and planning processes. In some cases failure to fully understand the nature and interrelationship of the various components in survey execution has often led to this undesirable situation. Many a time, the "funfare" of a manpower survey is extinguished when interviewers have returned from the field and exhausted their exchanges of experiences in the various enumeration areas. At times, other pressing administrative duties and government objectives and priorities do prevent survey officials and technicians from conducting the survey after its preparation or from completing it after the fieldwork.

What are the components of this phase, which must be understood and carefully executed to complete a manpower survey? As noted earlier, elements of the execution phase can be grouped under three major activities: conducting the survey; processing of the survey returns; and publishing of the survey results.

(i) Conducting the survey

This aspect involves both administrative and field operations.

(a) Administrative operations: Those can be grouped under three main activities to be carried out by a survey administrative team.

(1) Logistical support - Logistics (vehicles, folders, rain equipment if necessary, lodging, medical care) will have to be effectively organized and managed. Funds will have to be allocated and accounted for in accordance with budgeting provisions. Depending on the size and coverage of the survey, an administrative field organization may be required with a central point co-ordinating the activities of either regional or district administrative points.

(2) Recruitment and training of field staff - Field supervisors and enumerators will have to be recruited and trained particularly if the survey is other than a "mail survey" (i.e. questionnaires sent and received through the post). Regarding staff recruitment, attention should be paid to the traits that should become a survey staff. For example, survey interviewers must have adequate educational background to read and carry out instructions. They should have a pleasant personality and the ability and willingness to relate to persons. They should posses capability to communicate with the people to be interviewed. To ensure these and other desirable qualities, the question of the sources from which the survey staff is to be drawn becomes a very important one.

On the training side, a number of factors could play a deciding role with regards to the amount and effectiveness of training before actual fieldwork. The background and experience of the personnel in survey matters would make a difference. And so would the complexity of the survey in question. Active participation of trainees during the training phase, the use of training aids as teaching devices and the preparedness and skillfullness of the trainer could ensure an effective training programme. Mock test and trial run should be built into the training programme and if necessary, ad hoc on-the-job training sessions could be mounted during the conduct of the survey.

(3) Publicity and public relations - To obtain the co-operation of the public, the public will have to be informed properly and in advance. The survey administrative team should therefore make every possible effort to publicize the survey and maintain a high degree of public enthusiasm towards the survey. Care must however be taken not to mount a publicity programme

that is unreasonable in dimension and excessively exposed. There are some simple approaches which could be effective. For example, the news media can be used. Survey officials can disseminate information about the survey through advisory committees or by speeches on radio and television. Personal contacts with key local officials and important interest groups can be made to explain the programme and its relationship to their respective wellbeing. Interviewers could also be used to publicize the survey as they go about their daily assignments.

(b) Field Operations

A number of activities are undertaken during the field work of the survey mostly technical in nature. The following four are of crucial importance:

(1) Control over the flow of field materials - a close control over the flow materials to and from the field should be established at the central administrative unit. The need may certainly arise for instructional and training materials, blank forms and questionnaires and other necessary supplies to field personnel tc be sent to the field. Also, a need exists for completed questionnaires to the forwarded to the central office. Consequently, a record system recording what is sent to and receive from whom and where exactly are they going or coming from should be developed and maintained. One other thing that is important is that as and when the completed materials are received back from the field, they should be checked against the control records and where there are discrepancies, the matter should be followed up immediately with the appropriate field officer or with his/her supervisor.

(2) Quality control over field work - Non-sampling errors do occur during the field work. Such may arise from inadequate questionnaires and survey procedures. Others may arise from improper interviewing techniques or misunderstandings on the part of interviewers. Still others may arise from respondents' reluctancy, lack of adequate knowledge or faulty recollection. These would need to be kept at reasonable low levels. Hence, it is important that a quality control system be instituted for detection and minimization of non-sampling errors. Common approaches used for purposes of quality control includes the reviewing and editing of completed questionnaires to identify

obvious errors, such as, omissions, inconsistencies from item to item, incomplete entries etc. and to take the necessary corrective action before it is too late. Another common approach is to observe the interviewers using a rating sheet to judge his/her performance and making the necessary corrections.

(3) Dealing with special problems - Appropriate stand-by measures must be contemplated and used when necessary with special problems that could arise which, if not dealt with could reduce the confidence level of the results despite all the preparations and planning that would have been undertaken. More often, these problems relate to non-response; missing units that were included in the sample but no longer exists; respondents refusal to supply information for some reason or the other and areas that may become inaccessible during the field work period. Here, experience and administrative judgement would play a significant role. In some areas, legislation and persuasion could provide useful means. Adjustments could be applied in the course of estimation or substitutes may be used particularly in dealing with the problems associated with non-respondent and missing unit cases.

(ii) Data Processing

An overall processing plan would have been developed during the survey planning phase. This plan would contain decisions on what specific processing steps are needed, how they are to be carried out, what personnel and equipment are required, and what the time-table should be for each operation. With these under control and ready to be implemented, the task boils down to two major operations, processing of questionnaires, and preparation of outputs.

(a) Processing of questionnaires - A number of steps are usually involved. First, the materials received are put in batches for processing. Control sheets identifying the components and number of questionnaires and responding units are prepared and attached to the batches. Second, editing and inputations are done first manually and then through the use of computer if the capabilities exist. The objective is to check that the information contained in the questionnaire is complete, recorded in the prescribed manner and internally consistent; and to take appropriate action when these conditions are not fulfilled.
Thirdly, the information on the questions must be coded particularly if the questionnaires were not pre-coded. In most

cases, a coding manual would have been developed during the survey preparation stage. The objective here is to convert the written answers from words to numerical values for simulation.

(b) Preparation of outputs - Once coded, the results of the survey are either put in the data processing machine or tally on a control tally sheet. These are then aggregated into tabulations in accordance with the dummy tables designed during earlier stages. Following the tabulations, and particularly in the case of a sample survey, computation of sampling variances would have to be made to determined the confidence level of the results in the tables. Finally, provision must be made to store the data with a view of creating and maintaining a data base.

(iii) Publication of Survey Results

This last phase of the survey is as crucial as any other phase. Generally, it is thought of as the report of the survey. However, very little thought is often given to its preparation, content, dissemination and future usage.

Traditionally, such a report constituted a series of statistical tables containing aggregate indicators on the responses derived from the field. With a broader concept of manpower planning, and given the inter-sectoral approach to development planning and the need for manpower planning to be based on manpower survey results, the mere presentation of statistical tables is a necessary but not a sufficient condition to satisfy the structure, content and utility of a manpower survey report. These tables will have to be accompanied with relevant analysis upon which meaningful human resources management policies, programmes strategies and institutions can be based. Equally important, the report needs to enjoy wide publicity and acceptance, as well as political and professional clout.

Consequently, careful thoughts ought to be given to its preparation and the manner in which it is disseminated. Issues to keep in mind in this regard include the format and the writing style. Tables format should be standardized with respect to titling procedures, footnote designations, and other common notations. The writing should be clear and concise and should be aimed at the general users - both practitioners and technicians. It is also essential for the report to be objective and factual in its conclusion to gain the required public and professional confidence. Finally, the report must be made available for public consumption as widely as possible. In some case, it may become more useful to organize seminars to discuss the report and to draw policy-oriented conclusions from it.

The completion of the phase is the completion of the manpower survey.

(a) Discussion Question:

1. **Explain the inter linkages between the various survey activities and the exact impact of survey planning and survey execution.**

2. **If you have participated in the preparation and conduct of a manpower survey, what would you say was the most difficult and the less difficult parts of the exercise? Please give reason(s) for your position.**

(b) Assignment Question

Assume that we are interested in collecting information on how the graduates of a particular training institution are performing in the job market. Kindly explain how you would go about getting that information. Please do not write more than 15 pages.

CHAPTER NINE

MANPOWER PLANNING APPROACHES AND TECHNIQUES

OBJECTIVE

The objective of this Chapter is to review some of the manpower planning models. As we know, the process of manpower programming has widened in scope. Correspondingly, a number of variables would need to be considered when the actual flow of the manpower stock is being determined. We would not cover all that is in this Chapter, but an attempt would be made to deal with the key issues.

After going through this Chapter, the Manpower Planner should be able to:

- **fully appreciate the need for creating a sound data base to guide his/her work**
- **develop a simple forecasting model**
- **discuss the inter-relationships of variables and their functional relations with the growth and contraction of the labour supplied and labour demand**
- **understand better the complexities of manpower planning and the shortcomings of the major forecasting techniques.**

MANPOWER PLANNING APPROACHES AND TECHNIQUES

Manpower planning is basically aimed at bringing into balance manpower demand and manpower supply within a given time frame and national development objectives, policies and strategies.

Several approaches have been developed to undertake the manpower planning exercise. The two most common of these are the Manpower Requirement Approach (MRA) and the Human Capital Approach which is also known as the Rate of Return Approach. The Manpower Requirement Approach focuses on future manpower demand and supply inbalances, while the Human Capital Approach is mainly concerned with current balances and allocative efficiency. In this Chapter, we shall briefly consider some of the issues associated with the techniques involved in using each of the two approaches pointing out of course, their respective relative advantages and disadvantages.

I. THE MANPOWER REQUIREMENT APPROACH TO MANPOWER PLANNING

In essence, the MRA attempts to estimate the demand for manpower to fit determinate output growth targets and derives its importance from the need to anticipate labour skill shortages due to the normally long period required to train qualified personnel. The procedure has two interrelated phases:

1. The demand (supply) must be projected according to type of occupation (skill/knowledge) for each economic sector (institution of learning and areas of specialization) using known labour productivity co-efficients and socio-economic growth paths and targets in the case of demand, and using school enrolments and expected expansion targets in the case of supply.

2. The forecast would then have to be translated for policy purposes. For example, projected occupational or skills requirement (demand) will have to be translated into educational/training needs by applying the distribution of occupations in each sector to the educational levels known for the base year. Projected skill/knowledge supply on the other hand, will have to be translated into employment needs by investigating the labour absortive capacity of the economy.

Crucial to the use of the MRA, in addition to data availability as shall be shown later, is the understanding of forecasting techniques on the part of the planner, and ensuring that the manpower planning model as adopted, is an integral part of overall development planning. Let us consider some of the issues involved to see why this is so.

A. Manpower Forecasting Techniques: Some Issues for Consideration in the Application of the Approach

As we have indicated, planning involves a prediction or forecast of situations in the future and the manipulation of events through policies, programmes and strategies to reach desired results or targets. It requires therefore an indication of what things are likely to be in future years, and for this, it calls for the application of projection and forecasting techniques. We should note the slight difference between these two. With a projection, one moves, on the basis of what is known in the past and the present, to show what things are likely to be in the future. A forecast interpretes this projection to tell what situations would emerge in the future. Again, a point needs to be stressed: that projections/forecasts are only part of a long and complex process of planning, being but preliminary estimates based on:

- having clear definition of concepts to be dealt with;
- an expression of certain assumptions regarding future trends and events;
- an examination of past trends and events;
- an assessment of the present situation;
- the designing and development of a working model that would provide, on a systematic and analytical basis, the necessary tools for the evaluation of manpower forecasts;
- an application of the expressed assumptions, within the model to extrapolate past behaviour of variables into future years.

Consequently, a number of issues would need to be understood when manpower forecasts is made. These can be summarized as follows:

(i) Assumptions and the Reliability of the Forecast: A Problem Area

The accuracy of any forecast would depend on the realism of the assumptions made and the identification of all relevant variables given the availability of usable data. Problems could arise if the forecaster fails to make realistic assumptions or fails to make them explicit. The difficulty of making realistic assumptions for the projection of the parameters presents a major problem in the use of the MRA. First, the approach implies that an inadequate manpower supply of certain skills would block economic growth ignoring recent developments in technology. Secondly, it holds that irrespective of the relative costs and benefits associated with skill training, it is always desirable to equate labour supply with the manpower needed to attain production targets forgetting the relative costs and benefits for different qualification levels and their implications for substitution.

The manpower requirement approach raises other problems which have to do with the treatment of the linkage between total output and the labour contribution to it on the one hand, and the linkage between labour force contribution to total output and the corresponding human resource endownments on the other. The approach also does not explicitly consider the returns to the work force (i.e. earnings distribution).

As regards the first linkage, the manpower requirements for the achievement of a production target are estimated by using average productivity coefficients. This is equivalent to presuming a production function of fixed coefficients in which labour productivity does not vary in terms of the use of other productive resources. A similar assumption applies to the other linkage determining the different levels of skill required. Contrary to these assumptions, however, the possibility of substitution between labour and other factors as well as between different skill levels cannot be dismissed, as already pointed out. The possibility of substitution varies, of course, as the average educational levels of the labour force improves.

Concerning the linkage between labour's contribution to total output and its human resource endowments, the approach likewise does not take into account labour supply by skills. Furthermore, by concentrating on the achievement of output targets, the manpower requirements approach makes an implicit assumption regarding welfare. It supposes that welfare will be enhanced if employment and the training of human resources focus on meeting the needs associated with given production targets. Hence, although the essential need for manpower training and the importance of externalities are tacitly recognized, in its actual application, the approach does not explicitly acknowledge or measure these externalities. The maximization of the national income seems to be the sole objective guiding the planning of manpower training, with the equity criteria not used in the allocation of resources.

The need to make realistic assumptions is even of more a necessity when it comes to the identification of relevant variables. In this regard, the manpower forecaster would need to appreciate and understand the workings of the economy. There are different kinds of variables which form the basis of forecast and decision models. For our purposes, we shall distinguish between three types. One, we have instrument variables, which are those the forecaster is both willing and able to modify. Two, there are autonomous variables which cannot be influenced or modified by the forecaster. Such a variable may be autonomous per se, or may have to be considered as autonomous because of a given institutional or legal order. Thirdly, there is the target variable which relates to the targets, whether they be economic, such as a certain rate of growth of GDP, or they be structural, regional, cultural, etc. Once a target has been set, a target variable would be similar in character to an autonomous variable. There is however, one great difference between the two: a target can be modified when it proves impossible to attain, and such modification may come about precisely as a result of the projection exercise itself.

Discussion Question:

Identify a few variables associated with each of these types of variables and explain what could be the possible implications for making wrong assumptions about them.

(ii) Contribution of the Manpower Requirement Approach

Some of the more important contributions of the MRA should, however, be singled out. First, it has focussed attention on the need for correct anticipation of changes in labour productivity and the differentials between economic sectors. Secondly, it has improved the analytical basis on which to make reliable projections of future productivity. Thirdly, it has contributed to the preparation of empirical evidence on the ratios between increases in productivity and changes in the occupational and educational composition of the labour force. And, fourthly, it has emphasized the importance of the relation between technical progress and possibilities for factor substitution. Consequently, the occupational inputs registered at a given point are seen as reflecting not only the relative demand for different types of labour but also their relative availability.

(iii) Types of Forecast

There are generally three types of forecast: Conditional forecast, unconditional forecast and plan. Conditional forecast is one by which the forecast assumes explicitly a major change in conditions such as the achievement of a substantial rate of economic growth, or policy shifts that would affect supply demand relationships in the production sector, or labour force growth, or educational outputs. Unconditional forecasting is one which assumes that the various influences upon demand, including present policies, would continue to evolve in much the same way as they had in the past, with no significant changes affecting the variables. The third category of forecast, the plan, is based on either conditional or unconditional forecasting, but one adopted as a target supported strongly by the formulation of policies consciously designed to change variables towards desired outcome.

(iv) Forecasting Period

The duration of the forecast could affect its usefulness. There are usually three forecast time span: short-term (up to one or two years), medium-term (up to five years), and long-term (a period of ten years or more). Once it is decided that the forecast be made, the question becomes one of choosing the desirable period of time for which estimates should be made. The decision of course, would depend in part on the use to be made of the estimate and in part on the amount and usefulness oı the basic data available to the estimator.

Each of the term forecast has its advantages and disadvantages. A short term forecast allows for no time to influence the size and structure of labour supply. It is useful when there is need to take a short run action to vary labour demand in accordance with full employment policy. It can show how total employment act in the short run through the manipulation of policy instruments.

With medium-term and long-term forecasts, there is available to the policy maker a higher degree of control on the supply side through the extension of training and mobility facilities. As the length of the forecast increases, the reliability of the prediction decreases. This is so because of the effects of variables that cannot be controlled when the forecasts are being made either because they do not exist or because even if they existed, their usefulness changed. During the forecast period, medium-term forecast is good because it makes it possible to know shortages in demand. In a 5-year development plan, a forecaster can project demand and supply and identify whether, for the construction industry for example, there will be a shortage of engineers for the construction projects to be undertaken during the plan period. But five years would not be enough to train pupils to become engineers. The time is just long enough to identify the shortages. The advantage of long term forecast therefore is that it allows the forecaster to know what the requirements will be at a time sufficiently long enough for supply to respond to policy measures taken now.

(v) Distinction Between Stock and Flows: The Problem of Replacement

Labour force may be considered as a stock in the same way as the stock of capital. The FLOW of labour corresponding to the stock is the number of hours worked during a given period; and is determined by the size of the stock and the average working time.

The average working time is an important parameter for adjusting labour supply to labour demand over short periods. A long-term educational policy must aim at adjusting the stock to the requirements, since the average working time is within certain limits. Using average working time could be of little relevance when one is forecasting high-level manpower supply. In such a case, it would be useful to work with stock - its size and the magnitude and direction of changes in the stock over a given period of time.

The size of the stock is determined by the influx of young people entering and leaving the labour force, through immigration, death, retirement and emigration. The net difference between the inflows and outflows would give an indication of the changes in the stock. The adjustment process therefore would be that of striking the right balance between inflow and outflow. Normally, the term stock is used to denote requirements while the term annual demand is used in connection with flows.

Annual demand or flows can be split into two components: replacement demand and expansion demand. The former is necessary to offset the outflow through retirement, death and emigration. The latter would be needed to adjust the stock to higher level of activity which depends not only on growth in activity but also on productivity and development.

B. Manpower Projection Methods

Manpower forecasts can be calculated in a variety of ways which must be mastered by the planner. Each technique has its own special properties of details, conditional restraints and applicability to reality. Secondly, and more fundamental, forecasting methodology differs depending on whether the projection is for supply or demand situations. We shall work through a few models to highlight the importance of what has already been said in connection with data availability, the making of realistic assumptions, the identification of independent variables, the forecasting period and the need for an experienced forecaster.

For our purposes, we shall concentrate on the demand side although making brief references to the supply side. We shall work through a series of models as illustration, highlighting those elements that would be of particular interest to the manpower planner and seeing how the models are simulated to produce the desired results.

(i) Projecting Demand:

There are two broad types of methods for projecting manpower demand. We have the inquiry method and the statistical method. Before going to the illustration, let us review briefly these two methods.

1. The inquiry method - most favoured by African manpower and employment planners. It involves a survey of establishments, and is based on the assumption that employers know their occupational and employment needs in future years. An establishment survey provides for the manpower and employment planner basic information on each person employed including the self-employed in selected establishment and how that person relates to the activities of the establishment.

   The final output is an active manpower distribution matrix (present or projected) for the economy cross-classified by type of economic activity, occupation, education and skill levels, sex, age and average hours worked. Other vital information obtained include labour turnover frequency rates, output per worker and capital-labour ratios.

Such information would allow the manpower and employment planner to:

- project manpower demand and gaps by occupation, skill requirement, industry and location;
- develop and adjust manpower and employment planning models;
- develop guidelines that would facilitate the formulation of policies, programmes and strategies for vocational training, on-the-job and apprenticeship training so as to enhance labour productivity.

With regards manpower demand projection, the method has three shortcomings:

- the assumptions on which employers base their demand requirements are not known to the planner and they may be quite unrealistic or bear little relation to each other;
- the employer may not know whether policy decisions or whether the total programme of the national economy would effect demand for the goods and services his/her establishment produces;
- such a method of forecasting generally covers establishments of a certain size which is often restricted to the small formal sector, leaving out in the process the informal sector and of course a large rural/subsistence sector.

Discussion Question:

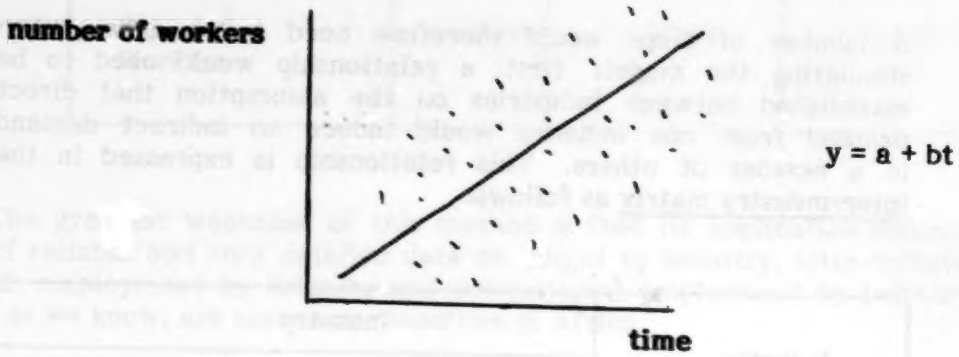
Explain the impact of each of these shortcomings on national development policiy formulation and implementation.

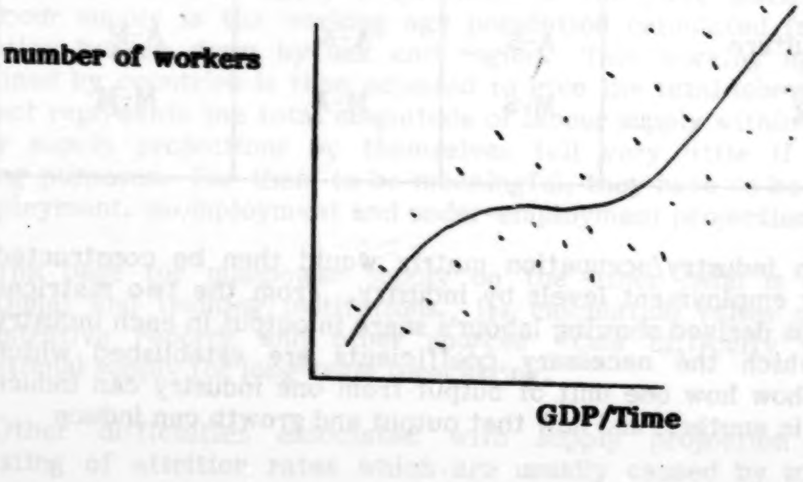
2. The statistical method

(a) **Extrapolation** - This is a simple method and fairly widely used in Africa. It involves the collection of data on occupational, labour force and employment variables, extrapolating trends from the serries and projecting into the future by fitting regression curves through them. Variables such as time or outputs are usually used in relation to number of workers.

For example, let us look at the following graphs:

- **Workers over time**





One of the main shortcomings of this method is that it cannot indicate with certainty that the labour force growth observed is dependent on time, or GDP growth over time alone, and as such, the planner may not be as comfortable with the projection as ought to be.

(b) Econometrics method - This method is more sophisticated and involves more difficulties in planning in Africa. With this model, employment or occupational demand is assumed to depend not only on time, but also on other output trends and complementarities among production sectors. The main point is that aggregate industry output demand would influence occupational demand and employment and so would changes in technology.

A number of steps would therefore need to be taken when simulating the model: first, a relationship would need to be established between industries on the assumption that direct demand from one industry would induce an indirect demand in a number of others. This relationship is expressed in the inter-industry matrix as follows:

Industry	Industry		
	Service	Agriculture	Mining
Services	S-S	S-A	S-M
Agriculture	A-S	A-A	A-M
Mining	M-S	M-A	M-M

Next, an industry/occupation matrix would then be constructed showing employment levels by industry. From the two matrices a ratio is derived showing labour's share in output in each industry from which the necessary coefficients are established which would show how one unit of output from one industry can induce growth in another, and how that output and growth can induce labour demand and occupational employment. This is done as follows:

Manpower Categories	Industry		
	Service	Agriculture	Mining
Professional	Xps	Xpa	Xpm
Managers	Xms	Xma	Xmm
Production Workers	Xpws	Xpwa	Xpwm

The greatest weakness of this method is that its application requires a lot of reliable and very detailed data on output by industry, inter-industry demand, employment by industry and occupational employment by industry. These, as we know, are scarce commodities in Africa.

(ii) Projecting Supply:

A distinction would need to be made between manpower supply projection and labour supply projection. In the first instance, the base for labour supply is the working age population calculated from the total population borken down by sex and region. This working age population as defined by countries is then adjusted to give the total labour force which in effect represents the total magnitude of labour supply within the economy. Labour supply projections by themselves tell very little if anything for planning purposes. For them to be meaningful, they have to be accompanied by employment, unemployment and under-employment projections.

The base for manpower supply on the other hand is enrolment in educational and training institutions. Its calculation relies on data from administrative records and other sources. One difficulty is projecting occupational supply for long-term forecasting.

Other difficulties associated with supply projection include the forecasting of attrition rates which are usually caused by market forces that are difficult to control, and forecasting wastage from occupational categories arising from death, retirements and resignation.

With these major conceptual issues covered, let us now review the characteristics of manpower planning forecasting model by working through a series of skilled manpower projection models.

C. Skilled Manpower Demand Projection Models: Some Illustrations

(i) Model Simulation

The model for projecting demand for skilled manpower which is being presented here is based on input-output analysis. The starting point is a skill-flow table (similar to the inter-industry flow table in the input-output analysis) showing the use of different types of skills by various sectors/users. These alternative methods of making projection of the demand for skilled manpower are presented here for illustrative purposes.

Model I: The premises of this model would be to use the relationship between skills and output. This would require the forecaster to assume that the i-th type of skill needed to produce a unit of the j sector's output is constant. In other words,

$$gij = \frac{Hij}{Xj}$$

where Hij = the amount of the i-th type of skill used by sector j, and Xj = output of sector j. From the above relationship we have:

$$Hij = gij\ Xj$$

or

$$\mathcal{E}_j \quad Hij = \mathcal{E}_j\ gij\ Xj$$

where $\mathcal{E}Hi$ = total requirement of the skill of i-th type.

Model II: An alternative model would be to use the relationship between skilled labour of various categories and total employment. Here the assumption is that the i-th type of skill per unit of employment in sector j is constant. In other words,

$$hij = \frac{Hij}{Ej}$$

where Ej = total employment in sector j.

From this relationship, we get,

$$Hij = hij \quad Ej$$

or,

$$\mathcal{E}j \quad Hij = \mathcal{E}j \; hij \quad Ej$$

The first alternative strictly adheres to the assumption of the basic input-output model. But the two are exactly equivalent if constant labour requirement per unit of output (i.e. constant inverse of Pj = $\left(\frac{I}{Ej/Xj} \right)$ is assumed. This can be shown in the following way:

$$hij \quad Pj = \frac{Hij}{Ej} \left(1 \div \frac{Xj}{Ej} \right) = \frac{Hij}{Ej} \quad \frac{Ej}{Xj} = \frac{Hij}{Xj} = gij$$

Frequently, the easier alternative is to solve for the model in this sequence: first for employment, and then for its skill composition. In that case, since the projected employment will have been known, it would be more convenient to use the second alternative. This is also convenient because the skill coefficients related to employment (hi j) can be estimated from the composition of existing skills in the using sectors. This is easier than relating skills to output.

The skill coefficients calculated from data on current or past situation will, however, need to be corrected in some cases, because they may not always be the appropriate ones for use in projection. This may be due to a variety of reasons, e.g., (a) benchmark conditions may represent shortages or surpluses; and (b) the composition of a using sector may change radically. For example, an industry may become more skill intensive.

In undertaking such a projection exercise, it is always advisable to carry it out separately for specific and carefully defined sectors of the economy by broad skill categories which can be identified by level of education or training. The real need is to first precisely identify the exact purpose for which the manpower projection exercise is being carried out and then accordingly define sectors and skills categories. To undertake a detailed projection exercise at a highly disaggregated sectoral and skill level for the economy as a whole is both impossible and more importantly in most cases, of little practical use for planners, policy makers and the private sector. If for example the exercise is being carried out to help determine investment allocations of the public sector (over say a plan period) in educational investment and skill formation, then the model in terms of sectors and skills should be accordingly spelled out.

Even despite these qualifications it should always be kept in mind that the chances of projections being off the mark by uncomfortable margins are real and therefore have to be constantly updated and corrected on the basis of regular monitoring and assessment of the situation. A major grey area is as regards supply and demand for skills by the informal sector of the economy on which very little information is available and is also extremely difficult to generate. Since in most African countries the informal sector is a major supplier of the "semi-skilled" category of workers mainly through on-the-job training it is an extremely difficult task to project its contribution to incremental supply or its share in incremental demand. It could be argued that the informal sector may be left outside the purview of the forecasting model on the assumption that the informal sector would meet its own requirements and makes necessary adjustments without public sector intervention. The problem of course is that there is considerable mobility of semi-skilled workers between the formal and informal sectors of the economy. Also in some cases (e.g. large scale out-migration of semi skilled production workers) the informal sector may also need public intervention to cope with supply shortages. Aggregate estimates of demand and supply of semi-skilled workers for major sectors must therefore be very carefully interpreted and need to be supplemented with detailed analysis at a disaggregated level by other methods such as labour market monitoring before policy decisions are taken.

Model III: Where projection exercises can be undertaken with little more confidence is for skills and sectors where incremental skill ratios are determined by a given "norm" which may have been worked out either on the basis of past experience or what the concerned agencies may consider to be the desirable ratio. For example, the demand for teachers could be forecast more accurate by using information about the target enrolment at various levels of education and given the teacher/student ratio as follows:

$$Mi = mi\,(Sit - Sio)$$

where Mi = Incremental number of teachers at type/level i

Si = Student enrolment at type/level i of educational institutions

mi = Teachers/student ratio at type/level i

Model IV: The following is a simple econometric presentation of the model. The rate of economic growth is taken as the prime determinant of the demand for manpower. Accordingly, a positive functional relationship ought to be established between manpower and monetary GDP at constant prices.

There can be no simple or precise relationship between the growth of GDP and manpower. The basic premise must therefore be the acceptance that the feasibility of the development targets assuming that such information is available - bears a dependent relationship to the availability of skilled manpower. This is a constraint which has to be assessed by some quantitative estimate of the relationship between different levels of manpower and output.

This means that the manpower requirement in any year "t" will be a function of the growth of GDP, the manpower base stock and the co-efficient of manpower utilization, i.e.

$$S^t = S^o (1 + eg)^t = S^t = (S^o)(a^t) \qquad (1)$$

where S^t = manpower stock in year (t)

S^o = base year stock

$1 + (eg)$ = the growth factor

e = manpower elasticity co-efficient

g = growth rate of GDP

$a = (1 + eg)$

The manpower elasticity co-efficient "e" in keeping with the assumption of a neutral technology does not incorporate the effects of substitution between labour and capital. It is simply a determinant of the manpower requirements on the basis of the output structure of the economy.

In the model, each type of manpower requirement will be a strictly defined function of output. The value of the co-efficients therefore postulates a unique requrement of each of manpower associate with a given level of output.

It follows that for an estimated GDP unit increase in sector "j", the required amount of "i" type manpower will be:

$$aij = 1 + (ei\ gj) \qquad i = 1 \ldots m; \qquad j = 1 \ldots n \qquad (2)$$

where aij = the growth factor for 'i' type manpower in the 'j' th sector

ei = the elasticity co-efficient of 'i' type manpower

gj = the growth rate of GDP in the 'j'th sector

Having said that unit output will require more than one type of manpower, equation (l) must be expanded in order to project the combination of the various types of manpower requirements for all sectors of the economy.

$$Si^{(t)} = \sum_{j=1}^{n} Sij^{(o)} \; aij^{(t)} \qquad (3)$$

where $Si^{(t)}$ = requirement of 'i' type manpower in year 't'

$Sij^{(o)}$ = base year stock of 'i' type manpower in the 'j'th sector

n = number of economic/industrial sectors

Summing (3) over 'i' type manpower gives us the total manpower in year 't', i.e.

$$S^{(t)} = K \sum_{i=1}^{m} Si^{(t)} \qquad m = \text{types of manpower} \qquad (4)$$

Equation (4) is none other than:

$$S^{(t)} = \sum_{i=1}^{m} \sum_{j=i}^{n} Si\,j^{(o)} \quad aij^{(t)} \qquad (5)$$

If determining the stock of manpower in any future year 't' were the sole objective, then equation (5) would be an adequate forecasting device. But this is not the case. There are flows which need to be taken care of. Replacement adjustments would need to be made. This is illustrated in the next section.

(ii) Introducing the Replacement Factor into Model IV: An Illustration of a Wastage Model

So far model IV has provided us with the net stock requirement for any year 't'. However, there are two co-efficients which must be incorporated in the model if the net stock as forecast by equation (5) is to be realized. The first of these is the wastage factor, that is, the rate at which year by year losses occur in the skilled labour force through retirement, attriibution or death. In most African countries, the age distribution of manpower, particularly at the top level categories, is heavily skewed towards youth and consequently wastage is a relatively minor source of demand. Nevertheless, it is an additional requirement which must be added to the demand for manpower beyond that indicated by equation (5). The wastage factor can be determined from analysis of historical trends and the age and sex composition of the manpower stock.

The second co-efficient which must be incorporated in the model is a localization factor. Although this does not affect the absolute number in either the stock or the flow, it does affect the distribution between local and imported skills and as such is a key variable in determining the required rate of expansion of domestic supply of manpower. This, however, is a policy instrument from which the co-efficient is derivable. In the absence of a definitive localization policy, historical trends will have to suffice.

Incorporating the wastage and localization factors, the gross requirement of manpower in any year 't' to realize the corresponding net stock requires a disaggregation of equation (4) into the local and imported manpower component as follows:

$$S(t) = \sum_{l=1}^{m} Li(t) + \sum_{l=1}^{m} Fi(t) \qquad (6)$$

where (Li(t) = local component of manpower

Fi(t) = imported component of manpower

The total manpower requirements in any year 't' to realize the net stock would therefore be:

$$Ri(t) = \sum_{j=1}^{n} aij\ Li\ j(o) + bFi\ j(o) + cLi\ j(o) +$$

$$\sum_{j=1}^{n} aij\ Fi\ j(o) - bFi\ j(o) + cFi\ j(o) \qquad (7)$$

where $Ri(t)$ = **total requirement of manpower**

b = **localization factor**

c = **wastage factor**

Equation (7) incorporates the assumption of some reliance on imported skills. This means that the elasticity co-efficient 'e' in the growth factor 'a' would have to be disaggregated into local and imported components and weighted accordingly. The weight of each element will be derived from the stated policy of localization.

Equation (7) can be reduced to:

$$Ri(t) = Ril(t) + Rif(t) \qquad (8)$$

where $Ril(t)$ = **gross requirement of local manpower**

$Rif(t)$ = **gross requirement of imported manpower**

Following from equations (1) and (8) the gross incremental requirement of 'i' type manpower in year 't' will be:

$$Ii(t) = Ri(t) - Sil(o) \qquad (9)$$

The gross incremental requirement of 'i' type local manpower in year 't' will be:

$$Iil(t) = Ril(t) - Sil(o) \qquad (10)$$

and of imported manpower:

$$Iif(t) = Rif(t) - Sif(o) \qquad (11)$$

where $Ii(t)$ = **gross incremental requirement of 'i' type manpower in year 't'**

$Iil(t)$ = **gross incremental requirement of 'i' type local manpower**

$Sil(o)$ = **base stock of 'i' type local manpower**

$Iif(t)$ = **gross incremental requirement of 'i' type imported manpower**

$Sif(o)$ = **base stock of 'i' type imported manpower.**

By substituting $Si(t)$, $Sil(t)$, $Sif(t)$ for $Si(o)$, $Sil(o)$, $Sif(o)$ in equations 9, 10 and 11 respectively, the net incremental requirement in year 't' is obtained.

Assignment Question:

Do the substitution and write a paragraph on the relationship between these variables.

II. THE HUMAN CAPITAL OR RATE OF RETURN APPROACH TO MANPOWER PLANNING

The human capital approach (also known as rate of return analysis) relies on rather detailed empirical information about average labour and income by sex and educational level. The educational categories are used as proxies for human resource endowments. The fact that people with higher educational levels frequently earn higher incomes has two implications for this analysis. The first is that the labour market tends to compensate for the cost incurred by remaining longer in school instead of participating early in economic activity. The second implication is that in order to be consistent with overall resource allocation in the economy, persons with higher educational levels and earning larger incomes are expected to demonstrate higher levels of productivity.

The human capital approach views human resources development decisions in the nature of investment decisions. It relates future benefits and current and past costs of human resources development as criteria for investments in human capital. The benefits are measured in terms of the potential contribution to total output and are identified with the lifetime earnings increase due to a person's additional education. The costs are those incurred directly or indirectly either by the individual and/or the society during the educational training investment period.

The basic idea is that educational programmes showing positive balances between benefits and costs should be promoted, while those exhibiting zero or negative balances should be discouraged. Note that the method also permits a choice among alternative educational projects with positive balances. For the analysis, benefits and costs must be correctly measured in terms of comparable values, using the discounting or present value technique.

The rate of return notion of the approach is based on the emphasizes put on education as an investment in human capital. Accordingly and in line with investment theory, resources must be allocated to education only up to that point where the rate of return is just equal to that relizable from alternative forms of investment.

This allocative efficiency of investment emphasized in the rate of return approach implies both a perfectly competitive economic resources and product markets, such that there exists alaternative employment opportunities among which the different levels of manpower are free and able to move. This means that the Value of the Marginal Physical Product of a unit investment in education must equal that of a unit investment in all alternative uses. This is a situation of optimum least-cost combination of the total resources of the economy.

The rate of return to education will be that discount rate which reduces the present value of the differential streams of earnings minus cost to zero, i.e.:

$$\sum_{t=o}^{n} \frac{(B_t - C_t)}{(1 + r)^t} = 0$$

where B_t =the additional earnings over 't' years resulting from a certain amount of education

C_t = the cost of that education over 't' years

t_o = the base year of education

t_n = the year of retirement from the labour force

r = the internal rate of return

Another way to look at this is to conceed that: the manpower requirement approach provides little guideline for educational investment planning for the production of different kinds of skill for which demands are diffused over a wide range of activities including self-employment either in the informal sector or the rural subsistance sector. At the same time, key decisions as regards allocation of investment in education and training need to be taken to decide breakdowns between different types and levels of education/training, the impact of which, given the gestation lags, may take a long period to realize. This gives rise to two very important questions which must be answered. First, what criteria should be used to determine breakdowns between primary, secondary and higher education, between technical and general education and, within technical education, the distribution of specific skills which need to be developed? Secondly, what factors, for example, should be taken into account in deciding investments, within technical education between say polytechnics, engineering colleges and engineering universities? The argument is that the rate of return approach can provide some useful answers. It can provide a meaningful guide for undertaking educational planning.

Two suppositions are implicit in the application of this approach. The first holds that a worker's human resource endowments (both in quantity and quality) determine his/her contribution to total output. Secondly, it holds that such contribution is correctly measured by the returns the worker receives from it. It is not simple nor easy to control the quality of human resources. Any failure to do so may cause biases in the estimated returns to such a human resource category. In any case, the implied assumption that a link exists between the contribution to total output by an individual worker and both his/her human resource endowments and returns from labour may not hold in a large majority of cases.

Discussion Question:

Under what circumstances would this assumption not hold?

Another area of weakness in the human capital approach relates to the problem of quantifying costs and benefits (productivity), i.e. deriving reliable co-efficients for these. Any attempt at deriving co-efficients for differential earnings, will have to be based on the unrealistic assumption that current wage rates measure the value of the marginal product of labour, implying conditions of perfect competition in both the factor and product markets. This assumption is quite at variance with reality. It is extremely tenuous to attribute earnings differentials exclusively to additional education, since such earnings are the result of a permutation of factors among which are the dualism of developing economies (earnings related to the sector in which the person is employed), native ability, ascribed and acquired status and class, to name just a few. As a result, it is not unusual to find wide variations in earnings of identical level of education/skill, etc. Any linear relationship therefore between education and earnings, is void of empirical foundation within the African context.

Even if the above objections are waived, there is still the heroic assumption of future earnings profile, given the changes in occupational structure and the consequent re-ordering of specific manpower demand patterns. In this respect the rate of return approach assumes an ideal wages and salary structure in terms of allocative efficiency, which in the circumstances of most African countries, is simply begging the question. There is also the operational problem, in that the majority of skilled manpower is in the public sector, which means that their productivity is not amenable to the market test. As such, rate of return calculations of investment in education are more likely to provide measures of the influence of respective categories of skilled manpower on earnings, rather than an education/productivity/earnings association.

A third major weakness relates to the assumption of a perfectly competitive economic resource market and a corresponding situation of optimum resource allocation leading to maximum efficiency in resource use. This is certainly not the case with investment in education. In most African countries the majority of educational facilities is provided by the public sector. This is a reflection of the basic classification of education as a "merit" want. Under such circumstances, the market mechanism is unable to assist effectively in an efficient allocation, since more than often the overriding consideration is not purely economic. It would therefore be misleading to assume that the public element of costs met from revenue reflects market valuation of relative resource scarcity.

There are other difficulties which exist in calculating, as well as rigidly applying, the rate of return criteria. There are serious data limiations, especially in making detailed cost calculations and getting readily available information on earnings for different skills. Also, imperfections in the labour market mean that relative wage and earning differentials do not adequately reflect differences in returns to the society. Wages in the public sector enterprises may be poor indicators of what true wage rates should be, and also reflect historical biases in evaluation of skills especially between white collar and blue collar workers. There are discrepancies between individual and social rate of return, the latter reflecting all costs to be borne by society in the production of skills. Also a case could be made out for evaluating ' social' costs and returns at 'shadow prices' reflecting scarcity values rather than the 'market prices' of inputs and outputs. This would be particularly important in the case of the skills (e.g. that of the doctors), the benefits of which are valued far more by the society than by the market in a given conglomeration of the distribution of income and private tastes and preferences. Finally, the rate of return calculations are usually fixed at the current margin with no indication of variation with respect to the expansion of different types of skill. To that extent they are inadequate guides for quantitative investment planning.

While all these problems have not been satisfactorily resolved, there is now a considerable body of literature on the estimation of 'social' and 'private' rate of return by educational level and by types of specialization, and we could draw some lessons from these results.

In the case of technical education, broadly two sets of questions need to be answered. The first is as regards specific skills which need to be developed, and secondly, as to the choice between different levels of technical education. As regards the former, there is need to supplement and strengthen the supply-demand projections explained earlier especially for detailed classification of lower level skills. Here, the rate of return analysis can prove helpful. Assuming costs for various skills at the same educational level to be approximately equal, changes in relative demand can be indicated either through changes in wage rates (if the labour market is effectively operating) leading to differences in rates of return, or reporting of shortages of specific skills by production units in both the private and the public sectors. Both these signals can be monitored by the authorities and, especially in the case of skills with a lower gestation lag, either training programmes can be suitably changed, or new programmes for the production of skills in short supplies can be started.

An important question in production of specific skills as well as in deciding substitution (to the extent possible without adversely affecting quality and output) of higher skills by lower skills is cost-effectiveness. A detailed exercise of cost estimates per enrolled student for different types and levels of technical education can prove exceedingly useful especially, since it is generally known that technical education is costly, and if we compare it with general education it is much costlier at all levels. Also these much higher costs point to the need for being far more careful in assessing demand for such training than in the case of say, general education. Any wastage due to inappropriate training (and subsequent unemployment), underutilized capacity or dropout can represent a serious drain on resources. It is in this context that high priority is given to the development of on-the-job training facilities since the annual 'social' costs for on-the-job training for skilled workers are normally significantly lower as compared to government-run training institutions.

III. CONCLUDING REMARKS AND SUGGESTED ADJUSTMENTS

It is clear that the two manpower planning techniques above suffer from certain shortcomings by failing to properly take into account institutional factors and the peculiarities of the structure and functioning of the labour market. Both methods also ignore the influence of the social structure in the determination of economic opportunities. Hence, some adjustments would be needed when any of the two approaches is applied.

Suggested adjustment to these techniques are based on a different 'income from labour' determination process, which may be represented by a recursive model in which a complex set of social, economic, institutional, political and technological forces determine: (i) the volume and speed with which job opportunities are being created or destroyed within a heterogeneous labour market as the result of the level and pattern of economic growth; (ii) the vulnerability of different social groups, families or individuals to employment problems (under and unemployment) as the result of (i) above, and their credentials; (iii) the relative share that each worker receives in return for his/her contribution to total output; and (iv) the attitude and behaviour of the worker and his/her family as the result of their relative welfare status. Whereas the last aspect of this process is the starting-point for income determination, the first three are directly relevant to the manpower planning approaches discussed above. The recursive model is well illustrated by Pernia and Ulhoff (ILO Training Manual No. 2) and could be referred to for further reading.

According to the model, if human resources planning follows the manpower requirement approach, it should take into account the heterogeneous character of the labour market (labour market entry) when considering the relationship between output growth (economic growth pattern) and formal schooling/training requirements (credentials). Alternatively, if it follows the human capital approach, then the relationship between income and schooling should be specified within both the heterogeneous character of the labour market (labour market insertion) and the social stratification of the population/society (socio-economic background). These considerations, which not invalidating the techniques reviewed above, do point to the need for caution and for the introduction of appropriate adjustments when they are applied.

Discussion Question:

What do you think is the rational for the adjustments suggested by the recursive model?

ANNEX TO PART THREE

POPULATION DATA REQUIREMENTS AND THEIR APPLICATION IN MANPOWER PLANNING

POPULATION DATA REQUIREMENTS AND THEIR APPLICATION IN MANPOWER PLANNING

INTRODUCTION

The task of this Annex is to identify relevant population data requirements for manpower planning and to show their application within the manpower planning process. The objective which underlies the performance of this task is the desire to illustrate the vital relationship which ought to exist between a Manpower Planner and a Demographer as they both contribute towards national development efforts. To be considered are the nature and scope of population data and their application and implications for African Manpower Planners.

NATURE AND SCOPE OF REQUIRED POPULATION DATA FOR MANPOWER PLANNING

(a) Non-traditional concept of manpower planning and its relationship to population dynamics

Let us begin by reviewing some conceptual elements embodied in contemporary manpower planning and how the process relates to the analysis of population dynamics. The theory and concept of manpower planning have over the last ten years, extended beyond the traditional forecasting of labour supply and labour demand into planning for the development and productive utilization of a nation's entire population. Unlike the traditional approach, which is a point estimate of workers to be supplied and demanded, the new approach in manpower planning which is of crucial importance to African development, embraces the entire process by which a nation's development is stimulated through the continuous adjustments of the size, structure, quality, attitude and composition of its entire population.

For example, issues associated with the development aspect of the process include (i) planning for present and future school enrolment in terms of pupils and facilities; (ii) evaluating and structuring educational and training contents in the light of present and future work requirements; and (iii) planning for the physical and mental capabilities of the entire population. On the utilization side, the contemporary Manpowr Planner is concerned with (i) the appropriate allocation and distribution of the urban working population by jobs, industries and geographic location;

(ii) planning for and monitoring human capital flow relative to its recruitment, retention, retirement and replacement; (iii) planning for the making of necessary adjustments in the quality and quantity of job opportunities and labour productivity in relation to the needs and size of existing and expected population; and (iv) developing organizational strategies for the mobilization and participation of human resources in the rural and informal sectors.

Understandably, the need to consider these two inter-related aspects of the process (i.e. development and utilization) has become more and more important not only for manpower planners; but also for economic, social and political planners. The rationality is that the new approach deals simultaneously with finding appropriate means and strategies for developing the entire population as well as for making that population more useful and productive with a view to increasing the quantity and quality of goods and services for the consumption of the identical population. This implies that a multidimensional circularity, which is centred around a given population, exists within the manpower planning process.

Needless to say that the existence of this circularity is a necessary but not a sufficient condition to derive the maximum "multiplier effect". Active collaboration, coordination and cooperation in the efforts and activities of every individual responsible for the assessment and development of those variables that are positively related to aggregate national development would be corespondingly required. These individuals include demographers, educationalists, social workers, industrialists, political scientists, development administrators, etc. with the work of the demographers providing the necessary micro-foundations for manpower planning.

(b) Essential demographic variables required for comprehensive manpower planning

So far we have implicitly emphasized the importance of demographic data in the process of manpower planning. What is now intended here is the identification of those demographic indices and trends which we considered as being crucial to the activities of the Manpower Planner. It should be stressed however that (a) our list is not exhaustive and (b) the specific type and form of data required is depended upon prevailing circumstances and the Manpower Planner's choice and objective.

Be that as it may, the following demographic variables are generally needed in one way or the other for the purpose of manpower planning:

1. Estimates and projections of the population by sex, age and region;
2. Annual and expected population growth rates;
3. Rates and trends of in and out-migration;
4. Average life expectancy and dependency ratios;
5. Age and sex specific and crude fertility and mortality rates.

We need not discuss in these notes the methodology leading to the derivation of these indicators on the assumption that they are familiar issues to the readers. However, we wish to stress that the availability of the listed demographic variables is a result of the activities of demographers which consequentially implies the existence of a functional relationship between the work of a Manpower Planner and that of a Demographer. An illustration of the manner in which these variables are applied by the former is the subject of the next section.

APPLICATION OF POPULATION DATA IN MANPOWER PLANNING

In addition to practical experience and value judgement, statistical techniques do play a major role in manpower planning. Basic to the application of these statistical techniques is the ability for the Manpower Planner to appreciably assemble, analyse, and utilize national and at times regional demographic data in the planning exercise. The demographic variables as identified in the preceeding section are generally applied in three major processes within the manpower planning process. They are used (i) as sampling frames for designing manpower planning surveys; (ii) as yardstick for formulating national manpower development and utilization policies; and (iii) as independent variables within manpower planning models.

To illustrate, each of the three processes shall be briefly considered with selected examples cited. As an approach, emphasis shall be placed on first the utility of the process to manpower planners and then on the particular demographic variables as used in that process.

(a) Demographic variables as sampling frames

One of the most vital surveys in the process of manpower planning is the Labour Force Survey. For the contemporary Manpower Planner, the labour force or work force is usually defined as the total of those in the population that are capable of doing something. From a demographic view point, the labour force is considered as a certain proportion of ratio of the population of working age and described as the participation rate.

As we noted earlier, several indicators are sought by the Manpower Planner from the labour force survey. Notably among them are the following:

- (i) an estimate of present and future labour force size and cluster;
- (ii) labour market information particularly relating to occupational mobility trends, income levels and types of skills needed for village administration and production;
- (iii) the frequency distribution of skills and qualifications of the working age population.

The dimension of these indicators suggests that the labour force survey is intended to measure the present and potential personal and economic characteristics of the entire working age population with respect to labour productivity enhancement. Since it is neither necessary nor feasible to interview every member of that universe, the required information is generally obtained from a sample survey. The need for the labour force survey results to aid the formulators of employment and income policies as well as manpower planners implies that a stratified random sample would provide the best guide.

The most appropriate sampling frame from which the sample is to be drawn is usually derived from population censuses report. For example, the design of such sample depends upon the availability of adequate information on the population estimate by sex, age and geographic distribution.

(b) Demographic variables as yardstick for manpower policy formulation

Development economists have generally agreed that the existence of a comprehensive manpower policy is a crucial element in socio-economic development programme planning and implementation. The required policy needs to identify and formulate operating objectives that are consistent with other national objectives. As such, several issues need to be clearly defined and understood when these objectives are being determined.

Conceptually, these issues relate to (i) the type of desired and established national political social and economic objectives; and (ii) the positive and negative impact of population growth on economic growth and development. In dealing with the second element, the manpower policy formulator would rely on the use of demographic trends and indicators. The characteristics, structure, size and composition of the population ought to be studied and analysed by the policy formulator in the light of national needs and resources. As we already know, this action is necessary because the direction, consistency and magnitude of these changes will have implications for the development and structure of education and training facilities as well as for deriving and manipulating equilibrium conditions in the labour market.

On the other hand, the general focus of manpower planning and programming as a policy area should be geared toward the consideration of the impact of population dynamics on the process of economic growth and income distribution within the nation.

For all practical purposes, a careful analysis of the problems, issues, constraints, and strategies in relation to the implementation of human resources development and utilization leads to a meaningful national population policy. For basic outputs of manpower policies such as provision of adequate education, training, wage employment and social services and infrastructure are functionally related to the size, structure, location, taste and aspirations of a given population. Consequently, what constitutes a national population policy is partly an aggregation of manpower policies geared towards improving the quality of life of the population which in turn makes the existing and future labour force more productive.

(c) Demographic data as independent variables within manpower planning models

Several manpower planning models have emerged over the years in response to the new concepts of manpower planning. Basically, these models are aimed at finding appropriate means of maximizing the results of human resources development and utilization efforts within given constraints. By and large, demographic data are required in appreciable form when most of these models are being built and simulated. An extensive illustration of this dependence on demographic data by manpower planners for estimation purposes is constrained in these notes by space. We shall therefore review only two examples in a bid to re-emphasize the point that a need for collaborative efforts betwen manpower planners and demographers exists and one which needs to be harnessed.

As noted earlier, manpower planning embraces planning for human resources development and utilization. Accordingly, models relating to the development aspect centres on the theory of education planning while those associated with the later deal with employment, income and productivity planning. For our purposes, we shall only make a brief mention of that particular estimate, within the sphere of education planning, which is of direct interest to manpower planners; and lay more emphasis on that aspect which deals with human resources utilization.

(i) Example of human resources development planning: estimating future school enrollment

Of greater significance to the Manpower Planner are estimates of future school enrollment. There are two methods usually used in deriving these estimates. There is the Grade-Cohort method based primarily on the knowledge of the level of current school enrollment and estimated ratios of student intake, retention and output. The required variables for the use of this method are:

(a) School enrollment by sex, age and grade;

(b) Promotion, dropouts and repeaters rates;

(c) School age population by sex;

The second method is the enrollment-ratio method which is based essentially on the projection into the future of past and current ratios of school enrollment or of school attendance. The basic variable required is the population distribution by sex and age.

As can be seen from above, processed educational data (i.e. level and type of education by number and sex of pupils by region) and demographic data (i.e. population by age group, sex and region) will have to be made available to facilitate the usage of these two estimating methods. Underlying the need for the demographic data is the premise that the educational task of any nation will involve not only the preparation of present generation of school going age children and adults who have yet to receive a minimum level of training and knowledge; but shall also involve planning for an ever increasing number of children who will be reaching school going ages in the years to come.

This implies that a determinant factor in the estimation of the future school-going population size is the expected growth of the population. As we all know, to derive this expected growth indicator, the planner needs to know the specific mortality and fertility rates for each sex and at each age of the population. The pattern, rates and direction of in and out-migration should also be known. The prerequisite that these demographic variables be known clearly demonstrates the thesis that the availability of population data would enhance the work of the Manpower Planner.

(ii) Example on human resources utilization planning: Projecting employment by industry and occupation

A meaningful human resource utilization planning exercise should focus on two inter-related issues. In this regard, appropriate techniques and capabilities should be developed to facilitate (i) employment opportunities and jobs allocation planning; and (ii) labour allocation and productivity planning. Some of these techniques and capabilities have already been developed and used in the more developed countries, more so than they have in the less developed countries. Analysis of the literature shows that the application of these techniques particularly those relating to the planning of employment opportunities and job allocation rely on the availability of crucial demographic data. What is the nature of this dependence?

To begin with, it should be noted that the ultimate objective of employment planning is to bring into equilibrium the demand for and supply of labour in order to avoid undesirable surpluses or shortages of either jobs or labour within the economy. Such planning requires a range of information on the volume and characteristics of the work force and on the absorptive capacity of the economy.

The ultimate result of this exercise is to derive a projection matrix of employment by occupation and industry. These projections are needed by the Manpower Planner as useful guides for:

(i) Planning, evaluating, structuring and restructuring education and training programmes;

(ii) Student counselling and guidance programmes;

(iii) Management decision making; and

(iv) Job development and placement programmes.

The major inputs to the process of projecting occupational employment by industry begins with the projection of the labour force. The labour force projections are developed from the projections of the composition of future population which in turn is a function of the composition and structure of past and present population. Additionally, essential to estimating the size of present and future labour force are estimates of total population together with estimates of overall participation rates. Of equal importance is the classification of the estimated labour force by age and sex since the Manpower Planner needs to know whether the labour force is mainly old or young, or whether it is aging or expected to age in the near future or whether a large proportion of the labour force is or will be young entrants into the labour market.

With the size of the labour force determined, employment shares are then estimated. Several models are used in deriving these estimates. One of such models is the fixed ratio of employment to area population model whose outcome depends greatly on present and future population estimates. Mathematically, this model is reduced to the following equation:

$$E_{ij}^{t+i} = P_{j}^{t+i} \quad E_{ij}^{t} \div P_{j}^{t}$$

Where $E^{t}ij + i$ is projected emplovment in region j; $p_{j}t+ i$ estimated future area population and E_{ij} and $P^{t}{}_{j}$ are estimated employment and population in the region at time t respectively. As can be seen from the equation, present and future population estimates serve as weighting and deflating indices and therefore need to be on hand for the application of the model.

Other quantitative models whose application requires information on the level and characteristics of the population have been used. For example, there are models that focus on the relationship between income distribution, consumption and employment. With the use of such models, Barbara Janowitz observed that:[1]

> ...if two countries have the same average labour productivity but have different percentages of their populations in the labour force, their per-capita incomes will be unequal ...

Knowledge of the per capita index is a valuable information to the Manpower Planner whose role within the planning process is devoted to the efficient mobilization, development and utilization of a nation's population for increased national income and welfare. However, to obtain this indicator, demographic data will have to be made available as demonstrated in the following functional relationship:

$$\frac{\text{National Income}^{(Y)}}{\text{Total Pop. (N)}} = \text{Per Capita Income} = \left[\begin{array}{l}\text{The average}\\ \text{Labour}\\ \text{Productivity}\end{array} \;\text{X}\; \begin{array}{l}\text{Percentage of}\\ \text{Pop. in Labour}\\ \text{Force}\end{array}\right]$$

$$= \frac{\text{National Income (Y)}}{\text{Labour Force (L)}} \;\text{X}\; \frac{\text{Labour Force (L)}}{\text{Total Population (N)}} = \frac{Y}{N}$$

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[1] Barbara Janowitz: The Effects of Demographic Factors on Age Composition and the Implications for Per Capita Income, Demography, Vol. 10 No. 4, 1973, P 511.

A close examination of the above relation reveals the crucial need for demographic data in the analysis and understanding of the per capita index. In this regards, demographic information such as total population by age and in most cases by Sex and region will have to be mobilized during the exercise.

There are other set of models that are focused on the unification of demographic and economic variables into an econometric system of equations. The objective of such models is to establish the cause effect relationship so as to provide a guideline for developing employment creation strategies in response to the projections made. Generally, a simplistic version of these econometric models take the following form:

$$E_{ij}^{t+i} = a_i + B_i x_i + U_i$$

Where i = 1, 2, 3 ..., n. The B's being the associated coefficients and the X's are usually population estimates, size of present and future labour force, and Gross National Product.

Finally estimates of replacement needs or job openings will be required to complete the projection of total occupational manpower requirements. Generally, total job openings over a given period is the result of separation from the labour force due to (i) death, (ii) retirement, (iii) out-migration and (iv) transfer to other occupations.

Again it is clear that demographic data will have to be used in the derivation of these replacement needs. With respect to separation due to death and retirement, the Manpower Planner will have to calculate working life tables. This exercise depends on the availability of crude and specific mortality and survivor rates by age groups and sex. On the issue of out-migration, the number of people leaving the country per thousand will have to be deflated by the population estimate at the beginning of the period.

So far we have identified the required demographic data and its importance for performing manpower planning in a general way. Two major examples were given to illustrate its usefulness which, incidentally, is correlated with the degree of population problem existing within a nation or region. That is, the more pressing population pressures are on the development process of a nation (region) the more use should be made of demographic data in the planning process particularly in human resources development and utilization planning. This as we shall see in the next section, holds true for the countries of Africa.

INFERENCES FOR INTEGRATING POPULATION DATA IN MANPOWER PLANNING IN AFRICA

A major conclusion to be drawn from the above analysis is that the process of manpower planning relies substantially on the availability of vital population data. As stated, a series of relevant population data would be required for designing manpower sample surveys, for guiding manpower policy formulation and for estimating the levels and trend of present and future manpower supply and demand. Consequently, the need was stressed for demographers and manpower planners to work hand-in hand so as to ensure the availability and utilization of demographic data to facilitate the manpower planning process. Undoubtedly, the process of manpower planning could be seriously constrained by the lack of demographic data and/or the lack of institutional and staffing capabilities to utilize any existing demographic information and which, needless to say, affects adversely national and regional development efforts.

This realization together with pressing population problems impose new commitments on African governments and calls for new strategies in the areas of population data collection and manpower development and utilization planning particularly if the endorsed Lagos Plan of Action, APPER, the Khartoum Declaration and AAF-SAP were to be implemented. Despite the 1969 recommendations made at the Seminar on Application of Demographic Data and Analysis to Development Planning, activities have yet to be synchronized in nearly all African countries.[1] There are some hard facts which suggest that the elimination of this defficiency needs urgent attention in Africa. These facts include the following:[2]

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[1] See Economic Commission for Africa Report of the Seminar on Application of Demographic Data and Analysis to Development Planning, 2-9 June 1969, E/CN. 14/457-E/CN.14/POP/10-E/CN.4 CAS 6/9

[2] A detailed account of these facts are found in ECA Monograph No. 11 on Human Resources in Africa, November 1982, Addis Ababa.

(i) The distribution of the age group within the African population, which is growing at an average annual rate of 3 per cent, reveals that Africa has a very young population with 55 per cent comprising persons 0-19 years and about 82 per cent below age 35 for whom jobs and schools must be found and provided.

(ii) African population is characterized by a very low educational profile. The inadequate structure, infrastructure and output of the African education and training systems resulting from the lack of appropriate planning, has proportionally given rise to illiteracy and the phenomenon of educated unemployed in the region despite the continued rise in annual expenditure on education per capita in most African countries.

(iii) Compound with present high unemployment and underemployment rates is the persistant low GDP growth rate since 1960 averaging not more than 5 percent. More so a low probability that productivity would improve to sustain a population which is expected to double by the year 2000 exist; with those economically active reaching 225 million to fight for a little more than 100 million jobs.

These are certainly symptoms of population pressure and underdevelopment. Consequently, to foster development and thereby reverse this awkward situation, African planning capabilities will have to be developed to (i) reorient education and training programmes and facilities; (ii) provide adequate and productive urban and rural jobs; and (iii) increase the quantity and quality of output for the rapidly growing African population. This cannot be done in a vacum. Fundamentally, the characteristics of the population for whom the planning is to be directed should be clearly understood and accounted for in the planning process.

PART FOUR

HUMAN RESOURCES MANAGEMENT PLANNING AND PROGRAMMING: SOME BASIC POLICY AND INSTITUTIONAL ISSUES

CHAPTER TEN

NATURE AND SCOPE OF HUMAN RESOURCES MANAGEMENT WITH IMPLICATIONS FOR MANPOWER PLANNERS IN AFRICA

OBJECTIVE

This Chapter is intended to (a) provide a framework towards the understanding of the nature and scope of human resources management and (b) highlight the role of the Manpower Planner in the process of human resource management for development. The treatment of issues and concepts as contained in this document transcends the traditional piecemeal, singular and disintegrated approach which, unfortunately, have guided human resource planning, development and utilization programmes in Africa over the years.

Accordingly, we would illustrate analytically, the dynamic inter-relationships between human resource planning, its development and utilization, and the planning for and delivery of human resources quality enhancement programmes such as health services, nutrition, food, education, housing and environment conditions, etc. The objectives therefore are to:

(i) alert Manpower Planners of the magnitude and linkage relationship of their role in the overall process of sectoral planning for national development; and

(ii) stimulate discussions amongst sector planners, practitioners, policy makers and programme executors with a view to guide and/or re-enforce their respective actions.

Consequently, the Chapter highlights and defines some basic conceptual issues and elements related to human resource management and what is expected of the Manpower Planner in the process. The analysis is followed by a summary of issues and questions designed to stimulate discussions and, the sharing of ideas on the nature and scope of human resource management as they particularly relate to respective countries and Africa in general.

After going through the Chapter, the Manpower Planner should be able to:

- define what is meant by human resources, human resources planning, human resources development and utilization planning and human resources management
- understand clearly the relationship between human resources and the development of other natural and physical resources
- determine the pre-conditions for ensuring an effective human resources management system and the necessary elements within the system.

NATURE AND SCOPE OF HUMAN RESOURCES MANAGEMENT WITH IMPLICATIONS FOR MANPOWER PLANNERS IN AFRICA

I. WHY IS THE MANAGEMENT OF HUMAN RESOURCES NECESSARY?

(i) Human Resource as a Sub-set of a Nation's Natural Resources

All nations are endowed with a set of NATURAL resource bases comprising of water, land, mineral and animal. The animal resource base consists of a human resource base and other animal resource base. The management and interplay of each of the natural resource bases, with the human resource base as the initiator and conductor, do create what is usually called "CAPITAL STOCK" or "VALUE" resource or "DEVELOPMENT" resource which then can be used to enhance further growth and distribution of development benefits. Foremost among the created resources are the following:

Money or financial resources

- cash (notes and coins)
- reserves (cash and gold)
- bonds and security
- liquid assets other than bonds and security

Capital or infrastructural resources

- tools and implements
- machineries
- houses
- roads and transport
- communication net work

Energy resources

- electricity
- gas
- water power
- solar

Manpower or human resources

- knowledge
- skills
- attitudes
- fitness

The extent to which a nation is able to institute policies and measures that would adequately create the above listed resources would determine the development index of that nation. Consequently, the establishment and operation of an effective management system which integrates the planning, development and utilization of the endowed natural resources should constitute a priority pre-occupation of any government. This pre-occupation should be centred around applying sound management principles in optimizing total socio-economic development efforts and in harnessing present and future value resources for efficient production, distribution and consumption of goods and services.

Two pre-conditions must however be met if the above pre-occupation is to take on a meaning. First, there must be a systematic control over the FLOW, TYPE and SIZE of a given resource. In other words, the growth or diminishing trends of the resource stock will have to be determined and managed systematically. So would be the types and sizes of present and future reserves. Secondly, there must be a system and the necessary institutional arrangements which would ensure that the given resource base is well DEVELOPED, highly DIVERSIFIED and efficiently UTILIZED.

(ii) Elements of Human Resource Management and Implications for the Manpower Planner

To provide the systematic control and institutional arrangements, an effective resource management system will have to be developed and operated. The required system should have capabilities to (i) plan and co-ordinate activities and programmes, (ii) explore, mobilize, exploit and develop the given resource, and (iii) utilize the resource for the advancement of peoples' living standards. Three iterwoven techniques are required for optimizing the effectiveness of these capabilities. These are administration, organization and execution of a system in relation to national endowments and needs.

With regards human resource management, these techniques can be described respectively as follows:

(i) Administration: the existence and adherence to or enforcement of rules, policies, procedures, guidelines and schedules for monitoring human resource status, planning, mobilization, development, deployment and utilization.

(ii) Organization: the establishment and operation of institutions and systems for (a) managing and administering human resource planning, development and utilization programmes and (b) executing the planning, development and utilization functions.

(iii) Execution: the actual commitment of resources and efforts towards the implementation of programmes and plans for the planning, mobilization, development, allocation and utilization of the nation's human resource.

As implied earlier, the human resource base initates the transformation process of the other natural resource bases. This implies that the objective of human resource management should be aimed at the efficient development and utilization of the other resource bases. Consequently, a nation's manpower flow, type and size need to be monitored and human skills and knowledge developed and diversified with a view to creating a set of adequate and diversified value resources.

II. THE ROLE OF THE MANPOWER PLANNER IN HUMAN RESOURCE MANAGEMENT

The Manpower Planner has a significant role to play in ensuring that the activities associated with the administration, organization and execution of programmes to bring about the above results, are co-ordinated. This role should be aimed at establishing the necessary equilibrium between policies and strategies for human resource development as well as for matching manpower supplies and demands in accordance with national objectives, goals and resources. To be effective in undertaking this role, the Manpower Planner needs to have a clear understanding of the nature, scope and issues involved in human resource management as a starting point. Secondly, the Manpower Planner needs to be skillful at work and in negotiations at national and sectoral levels. The former would require the formulation of operational definition for basic concepts and the identification of the types and levels of "human

values" or "human capital" that are demanded by various users of labour. The later would require the institution of staff development programmes and the granting of appropriate authority and priority to manpower planning.

Efforts are made in the rest of this chapter to highlight the complexities of these concepts and issues associated with human resource management. This is intended to stimulate discussions and to better focus the Manpower Planner on the nature and scope of human resource management.

III. WHAT ARE SOME OF THE BASIC HUMAN RESOURCES MANAGEMENT CONCEPTS AND WHAT DO THEY MEAN?

Over the years, several definitions of human resource have emerged taking on different connotations for different groups. A synthesis of these interpretations suggests that generally human resource is understood as a vital factor input to national economic and social development. On the basis of this general notion, many concepts have been or are being developed within the human resource management process. As expected, each has varying application in different countries and each taking on different connotations for different interest groups.

During the last few years, the Human Resources Development Section of the United Nations Economic Commission for Africa (UNECA) paid greater attention to defining some of the elements embodied in most of these concepts. This exercise has resulted in a thought process towards the development of operational definition for the widely used concepts in human resource management. Included in these thoughts are the following:

Human Resource: can be described aggregatively as a stock of a nation's human beings who can be drawn upon to being about present and future production and distribution of goods and services. As such, the human resource stock should be planned, developed and utilized on a systematic basis. There are reasons for this.

First, human beings constitute a major national stock of potential resources with specific variables which occur naturally and crystalize into various types, forms and characters. The extent to which these variables, commonly referred to as human resources or manpower, can be effectively used in the production and distribution processes should determine the extent to which that nation's human stock can be called

an effective human resource for national development. In other words as with the case of the variables of say the capital resources i.e.; houses, tools, roads, etc., the variable of the human resource could be developed or undeveloped, over-developed or under-developed, utilized or unutilized, over-utilized or under-utilized.

Secondly, at any given point in time, the composition of a nation's human stock is heterogeneous in nature. It is composed of male and female, young and old, abled and unabled men, women, boys and girls who are spread within various aged groups and dispersed over a geographic land space. The size of the stock within each of the above categories could be small or large depending on the trends of migration, fertility and mortality all of which are controlled by the human beings within the human resource stock. Additionally, and equally important, is that at any given point in time, the human stock is the prime benefactor of national production and distribution efforts of the human beings within the human resource stock. In short, though the human resource stock is the most difficult of all natural resources to develop and manage given its heterogeneousity, it could be said to be the most important natural resource or wealth of any nation particularly when it comes to activating the planning, development and utilization of the other natural resource bases.

Manpower or Human Resources: These are essential variables inherent within each unit of a nation's human resource stock. They are the resources available to each human being and can be traded between users and owners to improve their respective living conditions. These variables, whose combined effect would yield a high level of labour productivity if properly developed and utilized, are interchangeably referred to as "labour", "human capital", "human value", "manpower", "human power" and human resources. They can be described as follows:

- **knowledge: knowing about what is to be done - Skills: knowing how to do that which is to be done.**
- **attitude: demonstration of a favourable inclination while doing that which is to be done.**
- **stamina or energy: to put the knowledge, skill and attitude into practice to do what is to be done.**
- **efficiency: getting done what is to be done optimally with the least possible cost in terms of efforts, time and resources.**

Discussion Question:

Trace logically why these factors should be taken into account.

What is unique about the above human resources when it comes to enhancing their contribution to national development, is that their development and deployment are not limited to external intervention of other human-power and nature as is with the case of variables inherent within each unit of the other natural resource stock. Their enhancement techniques also depend upon the abilities of owners of the resources to identify those resources as productive forces and to exploit efficiently the inward drive, initiative, goals, desires and curiosity which are invisible within every human being. In essence, each unit of the human stock has a major complementary role to play internally in the development and deployment of the inherent resources. Whenever this role is adequately played, the outcome is respectively called "self-development" and "commitment" either to one self or to an employer, both of which are essential for fostering aggregate growth and development.

Human Resource Planning: An analytic and systematic process which provides the basis for determining and monitoring measures and strategies that would manage (a) the in and out flow of men and women in the present and future work force; (b) the distribution of the work force by sectors, region and industry; and (c) the number of human beings who can be drawn upon for production and distribution of goods and services for now and the future.

One could easily confuse the above definition with that for population planning. Though related, the two are indeed different in two respects. First, their relationship equations are different. The population planner is primarily concerned with the relationship between (a) a nation's total present and future human being and (b) that nation's ability to support the needs of the total number of people. The human resource planner on the other hand, is concerned with the relationship between (a) the number of human beings within a given human stock whose skills, knowledge, attitude and stamina can be used to provide present and future support not only for the nation's population but for population of other nations, and (b) measures by which the national economy mobilizes a group of people and provides for the effective development and utilization of their skills, knowledge, attitudes and stamina for production purposes.

Secondly, the population planner differs from the human resource planner in the treatment of their respective relationship equations. For instance, population planning concentrates primarily on one side of the equation while human resource planning deals with both sides of the equation. In other words, the population planner analysis are directed towards questions, issues and adjustments relating to the total number of people or population size in a given time and land space and how they are distributed leaving the national absorptive capacity side of the equation to other sectoral planners. Whereas the human resource planner is concerned with the analysis of questions and issues that would lead to the formulation, monitoring and co-ordination of policies and strategies not only for the mobilisation and flow of an appreicable size of productive human resource stock, but also for the development and utilization of an occupationally diversified human stock at various levels.

Consequently, the process of human resource planning brings into equilibrium present and future labour market conditions through (a) the creation of operational linkages between the development of a nation's human resource and the deployment and utilization of that resource; and (b) the formulation of programmes, strategies and measures that would optimize labour productivity and minimize unemployment.

Manpower Development and Utilization Planning: As indicated earlier, manpower is a derived resource. It constitutes human skills, knowledge, attitudes, fitness and efficiency. These labour resources need to be carefully planned, developed and appropriately applied in relation to national needs and resources for a given population. This calls for an integrated approach involving all sectors of the economy with particular emphasis placed on health, nutrition, education, training, legislation, investment and labour allocation. The need for planning suggests that each sector develops capabilities to assess and determine policies and measures that would lead to the development of a sound human resource base. This where manpower planning would make its major contribution.

What is this manpower planning? It could be regarded as a systematic and analytic process which focuses on two areas of concern. One, the process assesses and determines quantitatively the nation's present and future stock of and need for skills, knowledge, attitude and fitness by types and levels and indicating gaps and imbalances in accordance with national needs. Additionally, the process of manpower planning assesses and determines the quantitative adequacy of health services, food content and intake and school enrolment and outputs.

The process is indeed vital to the development of a sound human resource base for national development. The point is that manpower planning provides basic statistics to aid various sector planners in the formulation of policies and measures that would enhance the contribution of their respective programmes which impact a nation's human resource ability to develop and use relevant skills, knowledge, attitude and fitness. For example, it permits the education planners to develop techniques and teaching effectiveness. Food and health planners need the statistics to guide and assess programmes which affect those physiological resources (i.e brain, nerves, sensory receptors and muscles) that need to be developed so as to enhance the development of cognitive, affective and psychomotor skills of the human resource. As for the human resource planner, the information will be used to manipulate equilibrium conditions in the labour market within sector, region, industry and occupation.

One factor leading from the above, which has been recognized over the years, but to which very little attention is given within the process of national planning, is the dynamic inter-relation which exists between the planning for human resources development and utilization on the one hand, and the planning for health, food and environment services on the other. Contemporary thinking has it that "ingredients" such as good health, nutritious food and a conducive environment do contribute simultaneously during the development and utilization stages of manpower. On the development side, it is now acknowledged that much of the foundation for a sound and healthy mind and body are laid at the formative years of a person during which time, the consumption of nutritious food and better health care play a dominant role. Equally recognized is that workers attitudes, initiatives, energy and efficiency are heavily influenced by the intake of nutritious food, better health care and a conducive working environment. Therefore, planning for the development and delivery of these ingredients ought to be regarded not as ends within themselves, but as a means for the optimum development and utilization of a nation's workforce.

In view of the above, manpower development could be considered as activities and programmes that would increase the value of the various human resources, dimensions including aspects such as skills, knowledge, fitness, attitudes and efficiency required of a high-quality human resource input into all sectors of the economy. Achieving this entails the development and operation of administrative institutions and instructional infrastructure for the various programmes that enhance the quality of the various dimensions inclusive of education and training as well as for the execution of appropriate policies and programmes to ensure the development of health, nutrition and a conducive environment.

It should be noted that manpower development within this context takes place at three levels. First, there is the role of the "invisible hand" or nature which administers a natural process of growth - physical and mental and attitudinal development coupled with learning by living. Then there is the impact of "self-development" which could be consciously or unconsciously administered by the person possessing the inherent resources. Finally, there is the "visible hand" or formal institutions which, probably because of their visibility, dominates manpower development planning and programming. Consequently, the required institutions and infrastructure referred to above should be of such so as to allow for the optimized development processes at each of the three levels.

Similarly, manpower utilization calls for the undertaking of activities and programmes that would mobilize, distribute and facilitate the effective use of the created human capital to achieve national and personal objectives. This would entail the development and operation of administrative institutions that would actually (a) locate, test and place job seekers (b) liaise between employer and employee organizations and (c) execute employment, income and labour productivity programmes.

Utilization takes place in either one of two forms. Manpower can be used to produce goods and services at a renter wage in accordance with another person or institution's goals. Alternatively, human skills, knowledge, fitness, attitudes and efficiency can be used by persons possessing these attributes to produce goods and services for meeting his/her own needs and objectives. The former could be referred to as "external employment" and the latter as "internal" or "self employment". Though a significant proportion of the African work-force could be considered self-employed, very little planning and development of institutions and programmes have taken place with regards the optimization of self-employment activities in Africa. Needless to say that this neglect has withheld a major contribution from African development. Hence, efforts should now be made in the enhancement of activities and programmes that will not only promote "external-employment" but will optimize "internal-employment" as well.

IV. HUMAN RESOURCES MANAGEMENT IN AFRICA: PROBLEMS AND PROSPECTS

So far, we have considered the general nature and scope of human resources management with a view to guide manpower and other sectoral planners in understanding their roles in the whole process of human resources development and utilization. Perhaps, the extent to which African planners have understood this inter-related role as referred to so far is reflected in a number of issues that characterized the process of human resources management in Africa. Below is summary of these issues and some ideas for consideration in response to the issues as identified by the ECA. They are presented here with the aim to stimulating discussion and guiding future actions in the establishment, development and operation of institutions and programmes for the planning of human resources development and utilization in Africa.

(i) Summary of major issues on the status of human resources management in Africa

1. Lack of universally acknowledged, accepted and applied operational definition of human resources and manpower in respect of their scope and nature;

2. Human resources planning is undertaken in isolation of (i) overall socio-economic development planning, and (ii) the development, allocation and productive utilization; and hence lack of co-ordination in the planning, the development and the utilization aspects;

3. Piecemeal and singular approach in human resources planning, with more emphasis on the quantitative balancing of the supply and demand equation, and little on qualitative and mutually supportive aspects;

4. Tendency to regard education and training as the only human resources quality enhancing factor in human resources development, leaving out the role of health, nutrition and food, habitat/environment, productive employment;

5. **Tendency to overstress the formal wage employment sector with little or no regard to self-employment, self income generation activities, and**

6. **The paucity of data and poor institutional arrangements for the collection, processing and application of data for human resources management.**

(ii) **Ideas for consideration in response to the above-mentioned issues**

1. **Like with other natural stock of resources, human resource base should command a similar care in its development and productive use;**

2. **Like other natural resources, there are specific variables that are innate and naturally occur in humans. These variables need to be identified and developed. They include:**

   (a) **Physiological resources consisting of the brain, nerves, sensory receptors, muscles and the skeleton metabolic body systems;**

   (b) **The psychological and sociological resources encompassing the urge or drive for basic needs satisfaction, achievement motivation and the propensity to engage in exploratory, creative, inventive, innovative and thought processes of research and development activities for sustained income generation activities thereby fostering technological change and spurring growth;**

   (c) **Organizational traits embracing the inclination for order and organization which will allow a person to establish and manage the planning, development and utilization of other non-human and human resource bases.**

The extent to which each of these innate resources is developed will enhance the output levels of the following human resources value adding factors.

(i) Knowledge of the whats, when and hows of doing things or phenomena

(ii) Skills relative to:

(a) intellectual "covert" thought processes often referred to as cognitive skills;

(b) emotive aspect of feelings, interests, attitudes, motivations, emotions and value processes that are often referred to as affective skills;

(c) performance skills of manipulation of tools, equipment and instrument for accomplishing tasks in production, service rendering and income generation, often referred to as psychomotor skills;

(iii) Kennet or energy to endure and work consistantly through a process overtime;

(iv) Attitude in terms of commitment and seeing one self as part of a productive process;

(v) Efficiency in doing the work incurring the least cost in terms of efforts, time and resource inputs.

3. A comprehensive human resources utilization programme would therefore call for the:

(i) Generation and distribution of employment and income generation opportunities within the entire economy;

(ii) Effective allocation and appropriate deployment and utilization of human resources in all sectors of the economy;

(iii) Utilization of incentive systems for enhancing productivity and for influencing income generating activity;

(iv) **Effective identification, development and exploitation of each individual's known "resources" for enhancing his/her self reliance and contribution to the nation.**

4. **A comprehensive human resources development programme would therefore call for a series of coherent and mutual reinforcing policy and institutional machinery components involving a number of ministries, notably those responsible for social services, health, education, agriculture, manpower and development planning.**

Assignment Question:

On not more than 5 pages, describe the human resources management problems (if any) in your country and make suggestions for dealing with them.

V. THE HUMAN RESOURCES MANAGEMENT SYSTEM

Institutional implications for ensuring the integration of the above human resources development and utilization programmes would require that the following subsystems be developed and operated as one system of the human resources management process;

(i) **The human resources planning sub-system responsible for (a) balancing the equations for labour demand and supply and (b) setting policy and operational guidelines for the development and utilization of a quality human resource base for national development;**

(ii) **The human resources development sub-system to be responsible for the production of sectoral targets, mobilization of resources and execution of activities in education, training, health, food and nutrition, habitat and environment;**

(iii) The human resources utilization sub-system to be responsible for the activities that would actually identify and place workers and monitor programmes and policies that would enhance workers incomes and productivity.

CHAPTER ELEVEN

HUMAN RESOURCES POLICY FORMULATION AND POLICY ADMINISTRATION

OBJECTIVE

This Chapter raises a number of questions and issues that are related to the formulation and administration of human resources policies. In addition, it provides a general framework aimed at assisting manpower planners in their efforts towards performing these two tasks. The objective therefore is two fold: (i) to outline the major steps and actions required to sustain the processes of formulating and administering human resources policies; and (ii) to provide a clearer focus on the direction human resources policies should take.

After going through this Chapter, the Manpower Planner should be able to:

- **determine and analyse more concisely those critical factors that influence labour supply and labour demand in order to effectively initiate and formulate manpower objectives and policies;**
- **relate the various human resources policy areas to the detemrination of policy objectives and goals;**
- **participate in the planning and formulation of manpower development and utilization objectives and policies;**
- **integrate manpower planning and programming activities into other development planning and programming activities.**

HUMAN RESOURCES POLICY FORMULATION AND POLICY ADMINISTRATION

I. WHAT SHOULD A HUMAN RESOURCES POLICY PACKAGE PROVIDE?

(i) Is Policy Formulation Interrelated with Policy Administration?

It is one thing to have a clear focus on what direction human resources policies should take and quite another when it comes to their actual formulation and administration. In the first instance, the provisions within the policy package will have to be fully understood and carter for. Secondly, the policy must be accepted and honoured.

With regard the first set of issues, the package ought to provide: (a) the necessary guidance for making administrative decisions regarding human resources planning, development and utilization; (b) a nation or organization's view point and vision towards the development and utilization of manpower; (c) a framework for establishing a way of directing specific actions to specific areas of concern on which different human resources development and utilization programmes are to be integrated, executed, coordinated, monitored, evaluated and adjusted for maximum results; and (d) the legal authority and institutions for executing those actions. The second set of issues relate to the implementation of the policy. This would involve policy approval, acceptability and monitoring, on the one hand, and establishing the legal and institutional basis for functionalizing the policy on the other. It would also involve the determination of goals, objectives and strategies which ought to be consistent with and lend support to other national policy objectives, goals and strategies.

Policy formulation and policy administration are therefore two sides of the same coin. For the process of policy formulation and administration to become meaningful, it must be complemented by the development and involvement of appropriate institutions and actions that would be party to and ensure the approval, rectification, dissemination and implementation of the formulated policies.

(ii) What Role has the Manpower Planner?

To achieve the above-mentioned condition, the Manpower Planner should be concerned with the undertaking of two main tasks which unfortunately are not being adequately performed in many African countries: These are:

(a) The determination and analysis of critical factors and policy areas that influence labour supply and labour demand in order to effectively initiate and formulate manpower objectives and policies that are integrated and consistent with other national objectives and policies; and

(b) The design, adoption and execution of concrete techniques and measures that would ensure acceptability, implementation, and re-appraisal of the formulated policies.

II. CRITICAL FACTORS AND POLICY AREAS TO BE TAKEN INTO ACCOUNT IN THE FORMULATION OF MANPOWER OBJECTIVES, GOALS AND POLICIES

(i) Why is it Necessary to Elaborate on and Specify Goals and Objectives?

There are a number of critical factors which should be clearly identified and understood by the Manpower Planner in the process of formulating national manpower objectives, goals and policies. Conceptually, these factors relate generally to: (i) the positive and negative impact of population growth on economic growth and distribution; and (ii) the type of desired and established national political, social and economic objectives. In the case of the first, it is worth-noting that natural changes in the characteristics, structure, size and composition of a given population ought to be observed, analysed and considered in the light of national needs and available resources. This becomes necessary because the direction, consistency and magnitude of these changes will have implications for the development and structure of education and training facilities as well as for guiding and manipulating equilibrium conditions between the labour and product markets.

Consideration of the second related factor is crucial to manpower policy formulation for two reasons. First an over-all national development objective is an aggregation of the nation's political, social and economic objectives. What is critical, is that in the absence of a co-ordinated manpower planning programme, or in the absence of an adequate national planning machinery and capabilities, the identified political, social and economic objective often come into conflict with each other. In such a case, the totality of the conflict needs to be diagnosed and the findings reflected throughout the formulation process of manpower policies.

The second reason for the Manpower Planner to be concerned with the setting of objectives, is that the realization of political, social and economic objectives, which are meant to raise the level and quality of human life, depends in part, on the strategy by which the nation's human resources are mobilized, developed and utilized.

The rationale is that an efficient scheme for the mobilization, development, allocation and utilization of a nation's human resources could eventually ensure: (i) greater awareness and involvement on the part of the population; (ii) social and cultural integration and advancement and (iii) increased and diversified national cutput and consumption. This, in effect implies that formulated manpower policies be aimed at the realization of the stipulated political, social and economic objectives. To achieve this goal, not only should the various sectoral objectives be studied by the Manpower Planner when manpower policies are being formulated, but a careful analysis of the environmental factors such as institutions, social sevices and legislations as well as nutritional factors, which surround the formulation and realization of these objectives, ought to be made as well.

(ii) What are the Critical Manpower Policy Areas?

A comprehensive manpower policy should be primarily, but not exclusively, directed towards three critical areas within the national planning process. These are: (a) manpower planning and programming, (b) execution of human resources development programmes, and (c) management of human resources utilization and specifically employment and labour productivity programmes. More important is that for each of these major policy areas, interrelated goals and objectives as well as the necessary steps and procedures of their accomplishment should be systematically determined and established.

III. WHAT SHOULD THESE POLICY ELEMENTS BE?

Granted that these goals and objectives do differ from country to country, there are some broad elements that relate to their determination which are common to all nations and whose consideration should provide the necessary guidance in the formulation of a comprehensive national manpower policy. For example, the following general questions and issues within each of the three critical manpower policy areas should be considered by manpower policy formulators and managers:

(i) Manpower Planning and Programming

For all practical purposes, a meaningful national population policy should be an outgrowth of careful analysis of the problems, issues, constraints, and strategies in relation to the implementation of overall human resource development and utilization policies. Indeed, basic outputs of manpower policies such as the provision of adequate health and nutritional requirements, education, training, income, employment and other social services and infrastructure are functionally related to the size, structure, location, taste and aspirations of a given population. The general focus of manpower planning and programming as a policy area therefore should be geared towards the consideration of the impact of population dynamics on (i) the nation's capacity to provide the human resources quality enhancing services; and (ii) the process of economic growth and income distribution within the nation. By so doing, manpower policies would be geared towards improving the quality of life of the population which in turn would make, all things being equal, the existing and future labour force more productive.

Among the several questions to be considered by the Manpower Planner in this regard are the following:

- Do the administrative and technical capabilities and/or potentials exist within the nation to transform a rapidly growing population into a group of active producers as well as effective consumers; if not, how best can that be brought about?
- To what extent can planned and on-going socio-economic development and investment activities absorb or utilize appreciably a growing or diminishing population?
- What are the qualities, composition, structure, trend, direction and frequency of population movements within and outside the nation; and how can this phenomenon be incorporated into the formulation of manpower development, allocation and utilization policies?
- What types and structure of institutions and legislations are required to allow for the appropriate analysis, guidance and coordination of the issues raised in the preceding questions?

(ii) Executing Human Resources Development

A comprehensive manpower policy should also be clearly directed towards the establishment, legitimation and operation of institutional and functional facilities to provide for the various human resources quality enhancement programmes for the nation's population.

Accordingly, the policy should basically stem from the need to:

- ensure that present and future workers do develop all the dimensions as to attain appropriate levels of intellectual, physical, psychological, sociological propensity for a given occupation and profession;
- regard the entire population (men and women) as potentially productive and therefore should be developed, effedively deployed and retained for increased productivity; and
- recognize that outlays in human resources development programmes are an investment and hence, the process should be systematically planned, continuously administered and linked to the world of work;

To address any one of these would require that the scope of a manpower development policy embraces explicitly:

- the definition and specification of required organizational or institutional machinery capable of developing, executing, monitoring and/or co-ordinating all education and training programmes in the country;
- the need to ensure that the various human resources quality enhancement programmes are systematically approached and based on frequently identified manpower needs;
- the specification of and collaboration in the development of the kind, content and levels of courses and programmes to be offered to gether with their timing and duration in relation to required and projected quantitative and qualitative national employment and productivity targets and goals;
- the identification, mobilization, training, utilization and retention of adequate teachers and trainers together with

the identification and determination of target groups to be developed by geographic and occupation stratification;

- the mobilization of institutional resources, and setting of standards of performance to ensure that high quality manpower is their output, and that the output of uncertified/unrecognized institutions does not negate national policy objective for quality.

(iii) Management of Employment and Labour Productivity Programmes:

Manpower policies aimed at achieving an efficient distribution, placement and utilization of a nation's human resource should be equally centered around two interrelated sub-policy areas: (i) creation and management of employment opportunities and (ii) setting of standards for and increasing labour productivity. The importance in initiating policies to effectively ensure these two rests on the premise that full and active participation of the population in the productive sectors of the economy would, over time, result in a favourable political, social and economic environment. Should this premise be accepted, it becomes necessary to identify the components of the sub-policy areas when manpower policies are being formulated. A few illustrations would suffice to substantiate this point.

The creating and management of employment opportunities embraces among others:

- the continuous restructuring of existing jobs in light of changing technologies and demands;
- the creation of new productive job opportunities to absorb the employment demands of a growing population, and
- the allocation and matching of skills and jobs to ensure a systematic mobility equilibrium and diversified utilization of the nation's labour force.

Management of productivity enhancement embraces on the other hand,

- the identification and further development of basic work-oriented skills and attitudes;

- the determination and provision of necessary financial and non-financial incentives to employees and employers;

- the assurance of the availability of basic health and social facilities which in themselves are factors in enhancing the quality of human resource;

- the adoption of appropriate monetary and fiscal measures to facilitate adequate capital formation and labour utilization; and

- the undertaking of job and task analysis in relation to operational expansion and technological changes.

IV. MAJOR QUESTIONS TO BE CONSIDERED BY THE MANPOWER PLANNER

In the light of the above-mentioned, the following are among basic questions that must be addressed when formulating a comprehensive national manpower policy mainly to ensure an effective utilization of the nation's human resources:

- What is the minimum socially and economically acceptable unemployment rate and how best can this minimum rate be achieved, maintained and if possibly, improved upon?

- What is the desirable labour force participation rate and which groups (i.e. men, women, handicaped, youths, etc.) of the population should be considered and mobilized into this active and productive labour force?

- What types, contents, level and duration of on-the-job and apprenticeship training schemes should be developed and used as viable complements to national education and training programmes?

- What are the relationships between monetary and fiscal policies on the one hand, and the development of technology, labour and capital substitution on the other; and how best can these policies be structured so as to ensure optimum utilization of the labour force?

- How institutionalized are factors such as workers' security and safety, employers' hiring and firing practices, workers' rewards and bonuses, workers' health and housing standards and workers and employers' organizations and how can these be improved upon, co-ordinated and incorporated in the overall manpower policy package?

Implicit from the issues and questions raised so far, is that manpower policies relating to manpower planning and programming, education and training and employment and labour productivity are all interrelated and consequential of each other. Therefore, the successful accomplishment of a set of policy objectives in one area depends to a large extent on what happens in the other two areas. This then suggests that manpower development and utilization policies need to be as comprehensive as possible. They would also need to be consistent not only within themselves, but with other adopted investment and production policies as well.

V. ACTIONS REQUIRED TO ENSURE ACCEPTABILITY AND IMPLEMENTATION OF FORMULATED MANPOWER POLICIES

While giving thought to and making analysis of the factors in the above discussed critical policy areas, the Manpower Planner must take into account simultaneously two related actions that would ensure the accomplishment of the policy objectives. One, the Manpower Planner must define and utilize certain techniques and strategies to ensure a wider acceptability of the formulated policies. Two, he/she must initiate action and procedures that would ensure the implementation and re-appraisal of the formulated policies. Thirdly, the Manpower Planner must ensure that the appropriate lines of responsibilities for administering the policies are created. To take these two actions, the Manpower Planner should assume the below listed responsibilities, the details of which, are highlighted in the rest of this section.

- To determine the desired result(s) from the policy by understanding the problems to be resolved by the policy measures, identifying the objective of the policy, its necessity and what would be accomplished through the policy;
- To gather all pertinent facts by analysing existing related problems and the responsible policies and noting the associated problems, institutional arrangements; what other nations

have done about the same problem, how do other people in other institutions and sectors feel about it, and who are the best qualified people in this field to talk with;

- To prepare a draft for discussion, highlighting alternative courses of action, the target group and how that group would be affected by the policy and identifying the responsible organs for deriving the end results of the policy.

Let us review briefly the nature and scope of the techniques, strategies and action required to bring about results.

(i) Techniques and Strategies Required for the Approval, Ratification, Release and Interpretation of the Approved Policies.

As indicated earlier, manpower policies identification and formulation should be accompanied by a set of techniques and strategies that would result in: (i) the approval and ratification of the formulated policies at the highest and lowest possible decision making levels; (ii) the dissemination and interpretation of those policies to the concerned sectors and actors in the economy, and (iii) the over-all commitment and actions to ensure the full implementation of the policies.

In initiating the required action, several trial and error techniques arising from various questions are involved though their nature depends on the requirements and organization of a particular country. Among the most common of these, are the following:

On the approval and ratification of policies, the Manpower Planner must:

(i) Review proposed policy statements for accuracy, conciseness and completeness. Are the policies necessary? Do the statements accomplish the objective for which they are designed?

(ii) Secure competent technical advice regarding the adequacy of the statements. Are they in conformity with acceptable practices within the public and private sectors? If not do they cover the deviations desired? Is there further research required before the statements are recommended for adoption?

(iii) With whom should this policy be cleared before further action is taken?

(iv) What concurrences are necessary before recommending the policy for approval?

(v) What is the highest point of authority required for final recommendation on this policy? Is this policy ready for review and recommendation?

(vi) Who is authorised to approve the policy? Is the draft complete in every detail, with the required recommendation, and ready for consideration and approval?

(vii) When should this action be submitted to the approving authority?

(viii) What official records are required, and what notifications of approval are sent to whom?

On the release and interpretation of policies, the Manpower Planner must determine:

(i) The number of location of persons affected and the necessary co-ordination required.

(ii) Timing of release and manner of release. Should copies be distributed only or should group meetings be held for supplementary interpretations? If meetings are required, what details are involved as to media and mode of communication?

(iii) The day-to-day administration of the policy: who interprets what to whom and when?

(iv) The style and format of release, if a standard policy manual does not exist.

(v) Who spot-checks interpretations to ensure uniform understanding and acceptance?

(2) Actions and Procedures for Ensuring Implementation and Re-appraisal of Formulated Policies

Policy implementation is the most important function of the manpower planning process. It is basically policy oriented and calls for effective measures that would facilitate (i) collaborative efforts between the national manpower policy making body and the various sectoral organs within the govenrment machinery; (ii) competent, dedicated and motivated staff to carry out the programmes not only at national, but at all other sectoral levels and (iii) commitment to the objectives on the part of political and non-political decision makers.

On commitment for the implementation of policies, the Manpower Planner must:

- **Prescribe adequate regulations to assure uniform understanding and observance**
- **Designate respective responsibilities and authorities for carrying the policy into effect**
- **Clarify administrative controls with respect to the policy. Who is accountable for what control as established by the policy?**
- **Review and evaluate periodically all policies and as a matter of fact co-ordinate the whole process and make necessary adjustments.**

As a general procedure the Manpower Planner at whatever levels must establish or seek for the establishment of the legal, operational and institutional basis as framework within which the policy ought to be placed:

Regarding the legal basis of the policy, the Manpower Planner must:

- **Review and cite existing relevant manpower planning guidelines, as well as manpower development and employment circulars, cabinet memoranda on the management of the human resources planning, development and utilization; presidential directives/order or statements and related chapters in the relevant/organization regulations with regard to** manpower planning and programming;

- Indicate appropriate aspects in the scope of the law within national statutes and regulations manuals and guidelines as issued by the overall manpower policy making and co-ordinating bodies.

Regarding the operational basis of the policy, the Manpower Planner must:

- Review and cite substantive policy elements focusing on:

  (a) the objectives, strategies and functions of manpower planning and programming;

  (b) the administrative machinery for manpower planning, policy guidance and execution regarding the

    - reporting and evaluating, contents and frequency;
    - extent of inter-ministerial and inter-sectoral co-operation and collaboration in formulating and executing manpower plans and programmes;
    - nature, scope and timing of manpower planning activities and schedules to be undertaken for timely receipt of the various sectoral manpower plans and programmes;

- Review and relate to the manpower planning policy, those policy elements that focus on private and public saving and investment plans and programmes.

Regarding the institutional basis of the policy, the Manpower Planner must ensure or seek to ensure that a responsible agency/institution, in collaboration with other relevant agencies and institutions, will have to develop adequate capabilities in the following three interrelated areas of specialization:

(a) Manpower Planning and Programming: The ability to formulate, develop and integrate within national plans

Best copy available

appropriate manpower plans and strategies; and to identify and programme manpower development and utilization activities.

(b) Manpower Policy Formulation, Co-ordination and Evaluation: The ability to diagnose problem areas and their policy implications and formulate responsive policy measures from conducted manpower studies and surveys; and to monitor, co-ordinate, evaluate and report on the implementation of education, training, employment labour productivity and other human resource quality enhancement programmes.

(c) Manpower Data and Information Collection and Analysis: The ability to design, develop, administer publish and analyse manpower studies and surveys for the formulation reformulation, and management of policies.

Lines of responsibilities for administering the policy:

A need to make a clear statement of who does what in relation to the formulation and execution of manpower plans and programme is important. Besides ensuring accountability, the exercise would provide for better co-ordination and resource utilization. Hence, advisory and executive functions and responsibilities should be delineated and allocated at national, sectoral, and establishment levels. The general nature of such a responsibility and functions include the following:

(a) The Central Manpower Planning Agency to be responsible for the

- Overall supervision and control of national human resources planning, development and utilization;
- Approval and transmittal to parliament/house of assembly related manpower development and utilization plans, programmes, reports and activities as prescribed by the manpower laws of the nation;
- Designation of presidential appointments and delegation of authority to Government agencies for executing manpower programme;

- Programme, schedule, design, develop and administer or co-ordinate manpower studies and surveys in support of national manpower policies;
- Promote and co-ordinate the preparation, continuous review, evaluation and adjustments of manpower plans as provided for under the laws and provisions of manpower policies;
- Assist other agencies/institutions in the development of manpower surveys and plans;
- Provide technical advisory services to the executive sectoral organs on ways and means for strengthening the formulation and implementation of manpower policies.

(b) Public and Private Sectors Employers and Employees to be responsible to:

- Provide necessary manpower data and information as required by Law.
- Develop respective manpower planning policies, and strategies for the planning, development and utilization of their respective staff requirement.
- Report to the national Central Manpower Planning Agency on the implementation of activities and programmes as contained in national manpower plans.
- Participate in the identification and formulation of manpower policies and programmes.

VI. CONCLUDING REMARKS

Two main conclusions can be inferred from the issues raised in this Chapter. Implicit is that for any national manpower policy to be effective, it should be aimed at responding to manpower problems geared towards meeting the social and economic needs of the nation's population. Explicitly, the process of policy formulation and administration is not as simple as is usually made to seem. First, it must be done within a coherent framework by a team of staff working in close collaboration with the various segment of the society and the economy. Secondly, the process itself is circular in nature and one part leads into another each time around. In other words, formulated policies must be administered. Administered policies must be re-formulated in the light of pressing needs and shifting priorities, which then starts the whole process again. These two conclusions indeed suggest a great challenge faced by Manpower Planners and the nature of the relationship between them and the rest of the society as it goes about its economic duties.

Assignment Question:

Are there any stated manpower policy in your country? If so, specify these and discuss the relevance, consistency and implementation chances of any two.

CHAPTER TWELVE

INSTITUTIONAL REQUIREMENTS FOR COMPREHENSIVE HUMAN RESOURCES PLANNING AND PROGRAMMING

OBJECTIVE

This Chapter gives an overview of the institutional requirements for ensuring an effective management of a comprehensive human resources planning subsystem in relation to its place within the framework of other sectoral planning and programming subsystems. The notes illustrate a specimen of a typical structure along with the associated functions and staffing requirements of a human resources planning subsystem. The underlying objective is to stimulate discussions and generate new ideas with the hope to evolving a set of guideposts to assist policy makers and Manpower Planners in their efforts to develop, install and operationalize national human resources planning institutions, staffing, and other capabilities.

Specifically, the Chapter addresses the long-standing debate on where to locate national central human resources planning and programming function, the structure it should have, what types and form of linkages are needed between and within the organs. /

After going through the Chapter, the Manpower Planner should be able to:

- discuss the rationale for a coherent and integrated approach to human resources planning and programming
- identify, establish and sustain the various institutional linkages within a human resources planning and programming sub-system

- **Design and develop a human resources planning and programming machinery suitable to national needs, capacities and goals**

- **determine the qualitative and quantitative staffing needs of a human resources planning and programming sub-system**

- **evaluate the functions and duties being carried out within his/her department and/or unit**

- **streamline existing human resources management department and units**

- **discuss and prepare functions and duties of a central human resources planning and programming organ and determine how each one of these functions is interrelated with the other.**

INSTITUTIONAL REQUIREMENTS FOR COMPREHENSIVE HUMAN RESOURCES PLANNING AND PROGRAMMING

I. WHAT IS INVOLVED?

The process of human resources management has three interrelated issues that must be dealt with. First, one must manage the development of needed skills, knowledge and work attitude. Secondly, the utilization of these human resources must be managed. Thirdly, one should manage the three interrelated functions of planning, development, utilization of human resources. The last aspect which is of primary concern in this Chapter requires first of all, planning and programming within the context of set policies and national development objectives. It also requires pursuing strategies to implement those programmes in such a way so as to satisfy ultimately labour and production markets conditions. This implies among other things, that the entire process of human resources management involves a host of intermediary managers applying various management principles, practices and techniques at specific levels in areas of interest and sector.

What is often forgotten by many African governments either deliberately or accidentally, is that planning at each of those stages provides a useful link in the process of human resources management. As the effectiveness of the system would depend on the degree and manner in which the individual links are solidified, inter-connected and re-enforced, this over-sight could have far reaching consequences on the development and utilization of African human resources. A useful starting point in addressing this problem so as to benefit from the functional inter-relationship which exists between the various levels and sectors, governments will have to spell out clearly sectoral development objectives derived from and linked to over-all national development objectives with a focus on the human stock as both generators and recipients of development.

II. THE MACHINERY AND WHAT IS EXPECTED OF IT

To adequately perform this task in relation to the three aspects of the process, three inter-related human resources management subsystems, suggested earlier, should be put in place, and made functional within the framework and context of the national development process and system. You may recall that these are:

(a) The human resources planning subsystem to be responsible to (a) provide the basis for establishing operational linkages between human resources mobilization, human resources development, and human resources utilization with the view to bringing into equilibrium labour market conditions; and (b) set broad policy and operational guideline for ensuring the efficient planning, development and utilization of a quality human resource base to support present and future national development.

(b) The human resources development subsystem to be responsible to (a) develop programmes, strategies and institutions that would ensure the production of a quality human resource base, and (b) undertake actual activities in human resources development and quality enhancement programmes such as education, training, health, nutrition, and environment etc..to implement planned programmes.

(c) The human resources utilization subsystem to be responsible to (a) develop programmes strategies and institutions that would actually identify and place workers; and (b) develop, execute and monitor activities that would enhance incomes, ensure work safety and improve labour productivity and employers - employees relationship.

Each of these three subsystems will have to be developed taking into account the need for accountability, productivity and sectoral linkages. In line with its objectives, the rest of this Chapter provides a set of guidelines illustrating generally the scope of the institutional framework and requirements for an operational comprehensive human resources planning subsystem. The structure, components, unit functions and staffing requirements as developed in this Chapter, are general in nature and do reflect the minimum expectations from a fairly developed human resources planning machinery.

III. MAJOR ISSUES TO CONSIDER WHEN DESIGNING THE MACHINERY

For effective human resources planning and programming, the organizational structure, responsibilities and the various departmental unit functions of the required institutional machinery need to be appropriately defined and designed with requisite staffing and operational capabilities to:

- initiate, formulate, administer and/or delegate the execution of comprehensive human resources mobilization, development and utilization policies and plans;
- identify, analyse and specify manpower development and utilization programmes, strategies and priorities;
- co-ordinate, monitor and evaluate the execution of measures as adopted, and
- develop guidelines and strategies for the synchronization of inputs and outputs of the entire manpower planning, development and utilization system.

There are two broad issues to be considered during the establishment of the required institutional machinery. First is the choice of location of the planning functions of the various departments and units and the efficiency of the subsystem. The second relates to the creation of vital linkages within and between the various organs that would ensure the effectiveness of the human resources planning and programming subsystem.

(i) Basic Issues Related to the Choice of Location and Productivity

This issue arise out of a series of difficult questions. Should there be a central organ responsible for national human resources planning and programming? If so, should it be an integral part of existing Ministries responsible for planning and development or labour affairs? Should the functions of such machinery be performed and/or co-ordinated by an autonomous agency or a Ministry of its own? What type(s) of measures and staffing arrangements that would be required and instituted to execute designed human resources management policies and programmes so as to ensure a productive and efficient system? Would it be wholesome for sectoral ministries, agencies and parastatals to develop within their respective planning units, human resources management units responsible for manpower planning, development and utilization within an overall national development planning system?

Finding answers to these questions becomes one of deciding on what form and structure should the system and other sectoral administrative organs take so as to enhance the implementation of the desired mandate as outlined earlier. The bottom line of it all would rest on factors such as the level of priority assigned to human resources planning, development and utilization, and the desired corresponding authority to be accorded to the responsible organ, and those to whom the execution of the planning, development and utilization functions are entrusted. It is worth noting, however, that the establishment of the ECA Conference of Ministers Responsible for Human Resources Planning, Development and Utilization in Africa and the high priority given to human resources management by African Heads of State and Government in the Lagos Plan of Action, APPER and UN-PAARD are indeed indications that these two factors are beginning to take roots in Africa, though appropriate administrative divisions and units will need to be instituted in many African countries with detailed functions and staffing arrangements clearly defined, allocated and executed.

(ii) Where Should the Various Parts be Located?

A suggestive measure, which was advanced by the Lagos Plan of Action and endorsed by the first meeting of the Conference of Ministers Responsible for Human Resources Planning, Development and Utilization, and one which could facilitate the development of the required abilities for instituting and operationalizing a comprehensive and co-ordianted human resource management machinery, is the establishment of a central organ for planning human resources development and utilization at the highest possible level of authority. This organ, to be supported by appropriate sectoral and inter-sectoral institutions for human resources development and utilization, should develop capabilities to:

- initiate, formulate and administer manpower policies within the framework of national development policies;

- identify, analyse and specify manpower development and utilization problems, objectives and alternative programme and strategies;

- co-ordinate, monitor and evaluate the execution of adopted measures to ensure optimum results and consistency; and

- prepare manpower development and utilization plans that would synchronize labour supply and demand targets in conformity with over-all national development objectives.

To ensure an effective exectuion of the above human resources planning activities, appropriate institutional capabilities would need to be developed and deployed at national level. Two interrelated administrative organs are suggested to achieve this purpose. The first calls for a high-level policy decision making body preferably composed of government, labour, management and institutions of learning. The second involves the administrative clusters of bodies responsible for the various human resources planning units located in public service establishments, the public sector, public enterprises and the private sector.

IV. WHAT ARE THE LINKAGES AND WHY ARE THEY VITAL TO THE PROCESS?

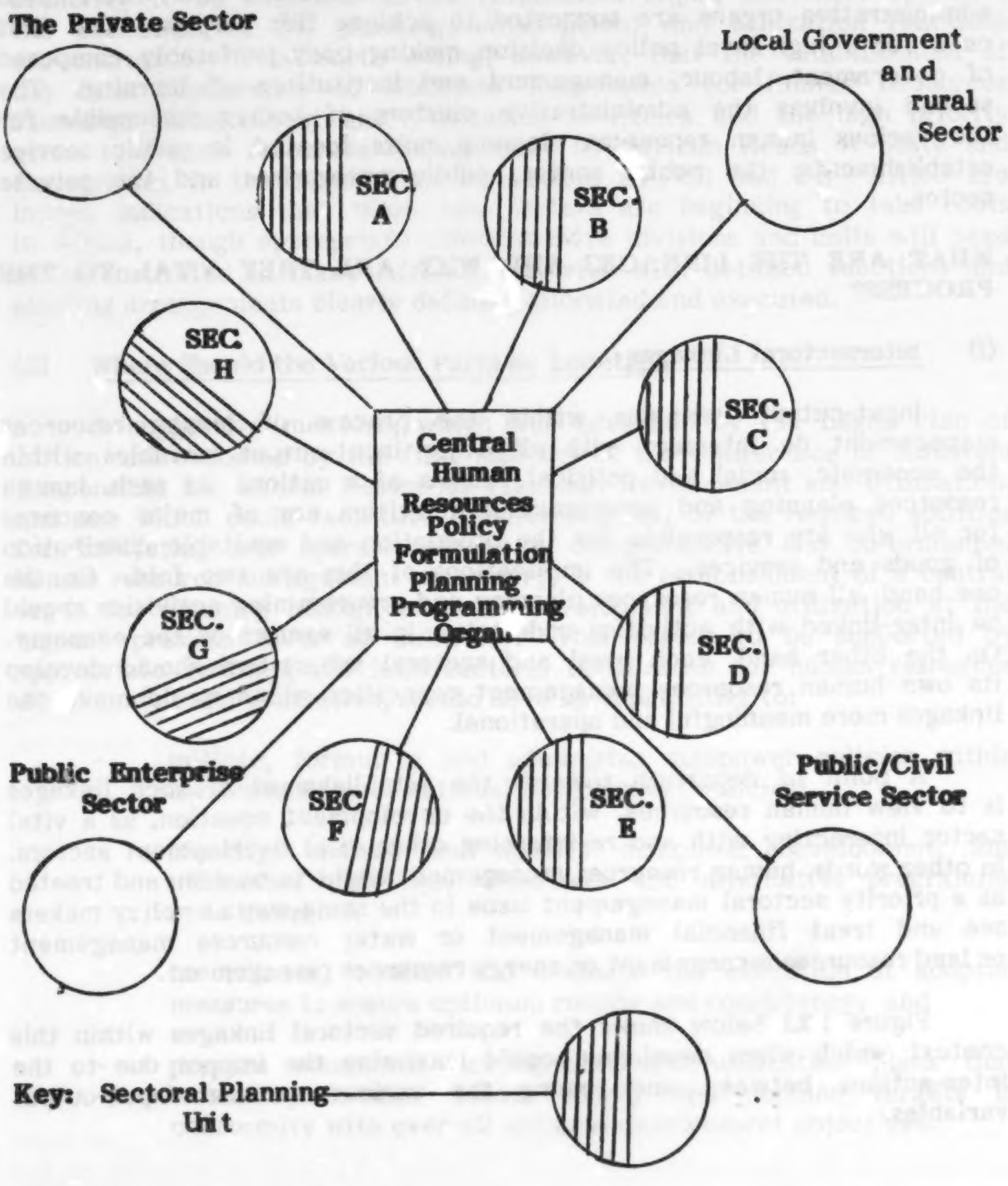
(i) Intersectoral Linkages

Input-output variables within the process of human resources management do intersect with all other input-output variables within the economic, social and political fabrics of a nation. As such, human resources planning and programming activities are of major concerns for all who are responsible for the production and equitable distribution of goods and services. The implications of this are two fold. On the one hand, all human resources planning and programming activities should be inter-linked with activities undertaken in all sectors of the economy. On the other hand, each level and sectoral sub-system should develop its own human resources management capacities which would make the linkages more meaningful and operational.

A point of departure towards the establishment of such linkages is to view human resources, within the development equation, as a vital sector interacting with and re-inforcing other vital development sectors. In other words, human resources management ought to be seen and treated as a priority sectoral management issue in the same way as policy makers see and treat financial management or water resources management or land resources management or energy resources management.

Figure 12.1 below shows the required sectoral linkages within this context which when developed, could maximize the impact due to the inter-actions between and among the various sectoral input-output variables.

Fig. 1 2.1 **Intersectoral Linkages for Human Resources Planning and Programming**

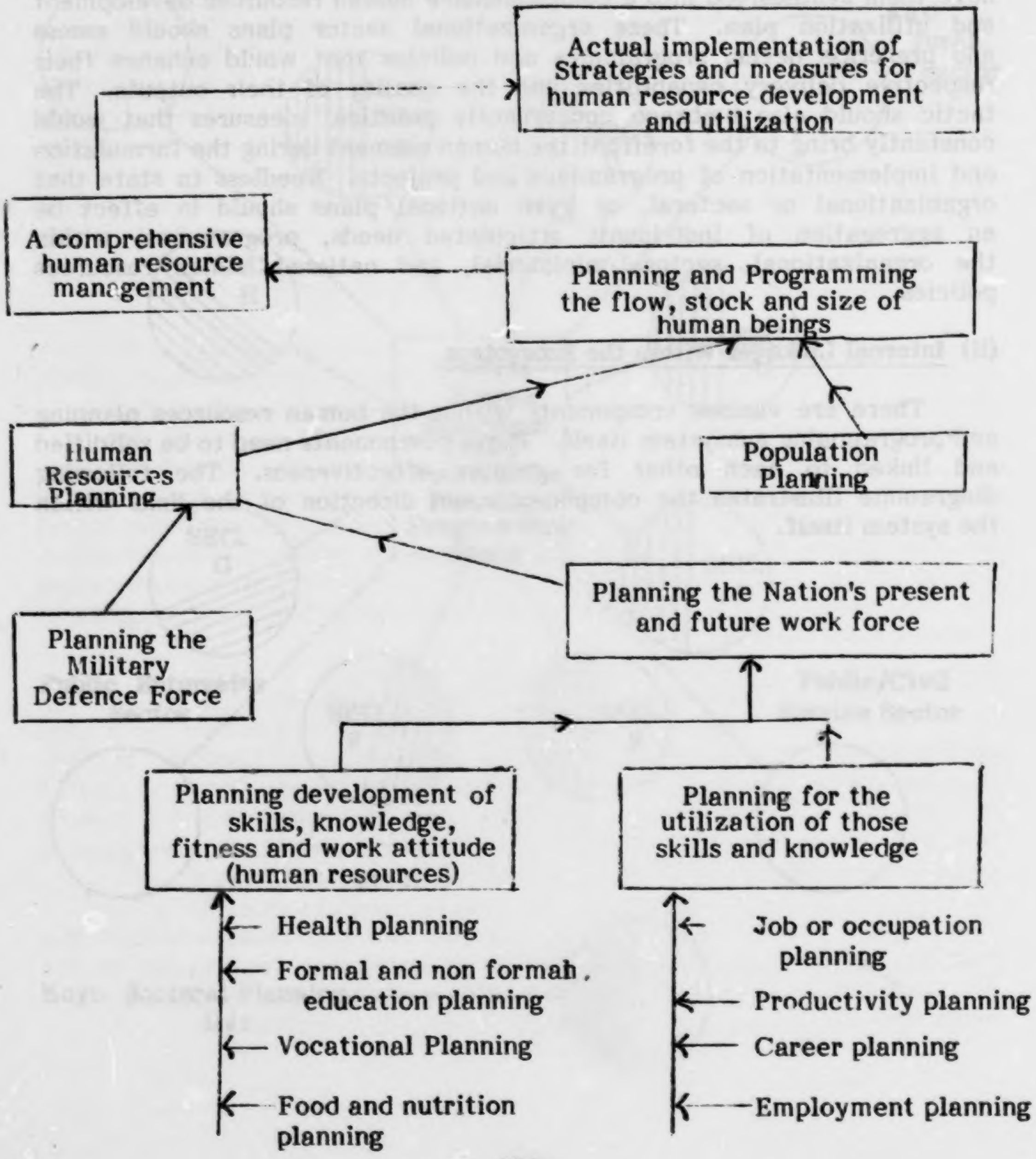

The Private Sector
Local Government and rural Sector
SEC. A
SEC. B
SEC. H
SEC. C
Central Human Resources Policy Formulation Planning Programming Orga.
SEC. G
SEC. D
Public Enterprise Sector
Public/Civil Service Sector
SEC F
SEC. E
Key: Sectoral Planning Unit

As can be inferred, a tactic to create and strengthen these linkages would be initiating activities that should ensure the development of planning and delivery capabilities of the various key sectors. The goal would be to develop organizational plans which are then agregated into sectoral plans, specifying their human resource implications, and then have them synthesized into a comprehensive human resources development and utilization plan. These organizational sector plans should assess and prescribe needs, programmes and policies that would enhance their respective delivery capabilities and the quality of their outputs. The tactic should also embrace concurrently practical measures that would constantly bring to the forefront the human element during the formulation and implementation of programmes and projects. Needless to state that organizational or sectoral, or even national plans should in effect be an aggregation of individuals articulated needs, programmes, within the organizational, sectoral/ministerial, and national human resources policies.

(ii) Internal Linkages Within the Subsystem

There are various components within the human resources planning and programming subsystem itself. These components need to be solidified and linked to each other for greater effectiveness. The following diagramme illustrates the components and direction of the links within the system itself.

Fig. 12.2: Linkages of Human Resources Planning and Programming Sub-system


Actual implementation of Strategies and measures for human resource development and utilization
A comprehensive human resource management
Planning and Programming the flow, stock and size of human beings
Human Resources Planning
Population Planning
Planning the Nation's present and future work force
Planning the Military Defence Force
Planning development of skills, knowledge, fitness and work attitude (human resources)
Planning for the utilization of those skills and knowledge
Health planning
Formal and non formal education planning
Vocational Planning
Food and nutrition planning
Job or occupation planning
Productivity planning
Career planning
Employment planning

V. HOW DO WE ENSURE PRODUCTIVITY AND EFFICIENCY OF THE PROCESS?

Each block in the diagramme represents a "link" within the process; and each link is made of smaller inter-connecting links all the way down to the various key sectors. The inter-connection of the entire network is what constitutes the human resource management system. However, the strength or effectiveness of the system lies in what happens at the level of sectoral planning. First and foremost, planning activities at the sector level should all be geared towards one major goal: planning for the development and utilization of requisite skills, knowledge, fitness and work attitudes for national development. Secondly, there should be as best as possible, harmony and consistency within and among the various sectoral planning activities particularly given limited resources on the one hand and the need for maximum impact on the other.

Except by co-incidence, these internal linkages cannot occur as desired on their own. Deliberate efforts, programmes, and strategies will have to be mounted and the necessary institutional arrangements made if they have to be solidified and operationalized within the macro-framework of development. Again appropriate administrative divisions and units will need to be instituted with detailed and interlinking functions clearly defined, allocated and executed. In addition, the suggested high-level intersectoral decision making and co-ordinating body would need to play a leading role not only for ensuring these internal linkages, but also for ensuring the required intersectoral linkages.

VI. STRUCTURE AND COMPONENTS OF THE MACHINERY

A case hes been made for two interrelated administrative organs for human resources planning and programming. An organ for policy guidance and co-ordination, and one concerned with policy determination and policy implementation by way of plan formulation and execution. The development of these organs to an appreciable level is a dynamic process and requires a systems analysis approach. What follows is a specimen of the characteristics and responsibilities of the organs as would appear when fairly developed.

(i) Organ for Policy Guidance and Co-ordination

(a) The nature and functions of an inter-agency decision making body

A high-level representative inter-sectoral body is suggested to guide, determine and account for the implementation of established national human resources policies and programmes. Different forms of such an organ have been operational in many African countries under different nomenclatures over the years. Some call it the "Manpower Board" or "Manpower Authority". Others refer to it as the "Manpower Commission" or "Council". Whatever name one attaches to the body, its traditional function has generally been very limited, and seen as advisory.

Perhaps this limitation is a contributing factor to the limited success the organs have experienced so far. For it can be argued that in the absence of careful planning and commitment, a difference could emerge between (a) the giving of an advice and (b) the consideration of that advice by the recipient. This divergence, which can be found in many African countries, with regards human resources development and utilization, makes the giving of an advice less meaningful than anything else.

In the light of this, two suggestions are proposed with respect to the nature and scope of the high-level organ with a view to making it more functional and meaningful. First, such a body could be appropriately called the "National Human Resources Management Committee". (NHRMC). Secondly, members of the "Committee" should be primarily concerned with and responsible for ensuring the implementation of manpower development and utilization policies and programmes rather than being restricted to the traditional advisory role.

These proposed suggestions have two implications for effectiveness. First, the idea of calling the body a "Committee" as opposed to the traditional "Council", "Board" or "Authority", brings to bear the need for committee members to equally regard themselves as formulators and implementors of policy and programmes rather than as advisors only. Secondly, the Committee will have a wider scope of operation. Consequently, members will not only consider policy and strategy matters, but would also be held responsible to report, at regular Committee meetings, on their respective on-going and planned programmes for the implementation of adopted policies and strategies.

Accordingly, the National Human Resource Management Committee, which ought to be duly constituted by legislation or executive order, should:

- Stipulate guidelines for and approve targets, policies, programmes and strategies for the efficient development and utilization of the nation's human resource;
- Study, harmonize, and co-ordinate measures that would motivate and ensure an adequate supply of and demand for quality manpower within sectors and occupations;
- Receive and review periodic reports on the status and problems of human resources development and utilization institutions and programmes.

(b) Structure and composition of the Committee

Membership on the Committee should be top level decision makers and administrators drawn from management, labour, government and manpower-development institutions. The size and selection of representation, however, should take into account the need for effectiveness and existing national administrative and production structures. Be that as it may, members should preferably be drawn from institutions that are responsible for:

Education and Training;
Industry;
Public Service Management;
Agriculture;
Private Sector Employment;
Employers' Welfare;
Employee's Welfare;
National Development Planning;
Health Administration;
Higher and Technical Education; and
Managing the Political party(ies).

The Committee should have two technical arms. One arm should be the central organ responsible for human resources planning which should be designated as its Secretariat. The other should be a technical preparatory committee (TPC) made up of heads of the various human resources planning units within those institutions/agencies represented on the National Human Resources Management Committee. The later Committee (TPC) shall work in close collaboration with the Secretariat and be responsible for the initial review of documents in preparation for the meeting of the NHRMC and the finalization of the Committee annual reports.

(ii) Administrative Organ for Programme Formulation, Policy Determination and Policy Implementation

(a) The nature and expected outputs of the organ

It would be wholesome for sectoral ministries, agencies, parastatals and non-governmental establishments to develop, within their respective human resources management units, manpower planning capability to specifically determine, analyse and ensure the requisite manpower for the effective implementation of their on-going and anticipated projects. Additionally, a central organ responsible for over-all manpower planning and co-ordination should be established as the focal point of the integrated structure. The combined activities of these two components should provide the necessary inputs for the activities of the National Human Resources Management Committee referred to above.

Two points, however, need to be highlighted. First, the relative trade-off between the magnitude and complexities in so far as delegating the above responsibilities to sectoral planning units or to the central organ would depend, to an extent, on the economic philosophy of the country concerned. For example, the central organ would largely play a co-ordinating role in a predominantly private or mixed economy; while taking on a greater responsbility for target determination and plan preparation in a centrally planned economy.

Secondly, three crucial factors need to be taken into account during the establishment and development of this integrated structure. These are: one, member States' ability to establish and operate appropriate functional linkages between other national human resource planning and executing agencies; two, availability of adequately qualified national manpower planners, labour economists and statisticians; and three, structures and capacities of existing national machineries for the formulation, co-ordination and implementation of human resources planning, development and utilization policies and programmes.

No matter what circumstances exist nor whatever form is the economic philosophy of the nation, efforts should be guided and intensified so that the integrated structure when fully operationalized, produces the following final outputs:

1. Reliable and up-to-date periodic education, manpower, labour force and labour market statistics and information;
2. Draft plans, policy statements and strategies for matching knowlege/skills and jobs, creating employment opportunities, increasing labour productivity and developing requisite human skills, knowledge and attitudes;
3. Technical services, particularly to the NHRMC, towards the implementation of human resources development and utilization programmes and policies.

(b) Operational Activities and Functions of a Human Resources Planning Organ

To provide the above outputs, the programme formulation, policy determination and implementation organ should have broad capabilities to:

- Develop a manpower and labour market information and statistical base upon which the management of the nation's human resources in relation to other natural resources would be planned for national development;
- Analyse, monitor, co-ordinate and evaluate national and regional manpower management data, policies, programmes and plans; and specify alternative measures and strategies that would optimize national human resources development and utilization efforts for the effective implementation of on-going and anticipated projects.

To effectively perform the above task, specific detailed terms of reference will have to be appropriately developed, assigned and executed. Preferably, the terms of reference should be designed along two primary operational activities: Namely, (i) policy and programme development management; and (ii) data gathering, processing and reporting. Each of the above should gain support from detailed secondary and tertiary operational activities. Below is a summary of a general specimen showing the relationship between the primary, secondary and tertiary activities:[1]

A. Policy and programme development and management

1. Policy and programme formulation, co-ordination and evaluation:

   - preparation of plans and projects;
   - monitoring and evaluating manpower and education plans and programmes;
   - analysing aggregate economic conditions and plans.

2. Planning human resources development:

   - formulation of alternative education plans, strategies, programmes and guidelines;
   - formulation of alternative vocational and technical training plans, strategies, programmes and guidelines;
   - formulation of plans, strategies, programmes and guidelines for other social factor inputs for a quality human resource-base such as health, food, physical education, etc.

3. Planning human resources utilization:

   - formulation of alternative labour productivity enhancement strategies, programmes and guidelines;

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[1] This relationship is also useful for designing the type of organizational structure for the central manpower planning organ and sectoral manpower planning units throughout the economy.

- formulation of alternative employment and job creation and distribution plans, strategies, programmes and guidelines;
- formulation of alternative measures for vocational guidance, career guidance and development and occupational testing.

B. Data gathering, processing and reporting

1. Organization and execution of manpower and education surveys and other data collection devices:
   - development and utilization of survey instruments and sampling frames;
   - development and utilization of administrative data collection forms and procedures
2. Processing and tabulating manpower and education data:
   - coding, punching, listing and tabulating data;
   - printing, sorting and publishing manpower, education, employment plans, information and policy statements.

VII. WHAT ARE THE TERMS OF REFERENCE FOR THE HUMAN RESOURCES PLANNING PERSONNEL?

As indicated earlier, specific terms of reference associated with each of the activities discribed above will have to be appropriately determined, allocated to a team of specialized officers and executed in a systematic manner if the administrative organ for human resources programme formulation, policy determination and implementation is to perform as expected. Though their scope may differ from country to country or from institution to institution in accordance with needs and capabilities, they should be of such so as to embrace the following comprehensive yet essential terms of reference for manpower and employment planning personnel:

(i) For the development and management of policy and programme:

Officers assigned this primary activity would be expected to collectively perform the following tasks:

1. Review and analyse labour market studies, reports, manpower survey results, industrial and non-industrial investment studies, all sector plans and population statistics with a view to:

   - identifying problem areas relative to manpower development, manpower deployment and manpower utilization, and advising on ways to solving them;

   - assessing policy implications of the identified problem areas in relation to overall national development needs and strategies;

   - formulating alternative human resources development and utilization policies and strategies and prepare periodic manpower supply and demand plans and profiles for consideration by the National Human Resources Management Committee.

2. Participate in the formulation and preparation of national socio-economic development objectives, policies and plans.

3. Develop and adjust manpower projection models and up-date analysis procedures to guide those responsible for manpower survey and information.

4. Liaise with other institutions/establishments responsible for manpower planning, economic planning, formal, non-formal and vocational education planning, investment planning, and employment planning.

5. Monitor, co-ordinate, evaluate and report on the implementation of national vocational training and education programmes; employment, income and labour productivity schemes; and social security and population adjustment programmes.

6. Collaborate with appropriate agencies on the identification and development of programmes and measures that will enhance the effectiveness of human resources development and utilization programmes and plans.

7. Identify institutional and operational gaps, problems and constraints surrounding the implementation of manpower plans and suggest possible adjustments for maximum results.

8. Monitor Socio-economic trends in relation to manpower development, allocation and productivity.

(ii) For the collection, processing and tabulation of data and other information

Officers assigned to this primary activity would be expected to collectively perform the following tasks:

1. Programme, design, develop, administer and/or co-ordinate manpower studies and surveys.

2. Develop and/or revise techniques and methods for assessing and forecasting present and future manpower supply and demand by occupation and industry as well as those for estimating present and future training needs for high-level occupations.

3. Collaborate in the design and conduct of periodic income, establishment, labour force and labour market surveys.

4. Assemble, analyse, store and publish data related to the labour force, labour market, outputs in the industrial and non-industrial sectors and from educational and training institutions which can be used primarily to:

   - determine and project the flow of present and future high and middle-level manpower within the economy;

   - determine and project, present and future skill requirements in response to present and future national development objectives; and

   - guide policy makers and programme managers in their activities with regards to human resources management for national development

5. Establish and operate a viable human resources data collection and reporting system and linkages with other sectoral data collection units with the aim to produce periodic manpower, labour force and education statistical time series data.

6. Collaborate with appropriate agencies on the identification and development of programmes and measures that will enhance the scope, content and quality of national population and agriculture censuses, household expenditure surveys and income studies.

For effectiveness resulting from the division of labour and to ensure accountability, the above required operational activities will have to be consolidated and compartmentalized when it comes to the question of actually doing them. They need not all be carried out under one roof; but their compartmentalization would be in common whether or not this is done within other sectoral organs charged with the function of human resources planning and programming. To guide the exercise and the process, we shall, in the next section, illustrate a specimen of a fairly developed organizational structure of a central human resources planning and programming organ and outline a set of detailed function associated with each part within that structure.

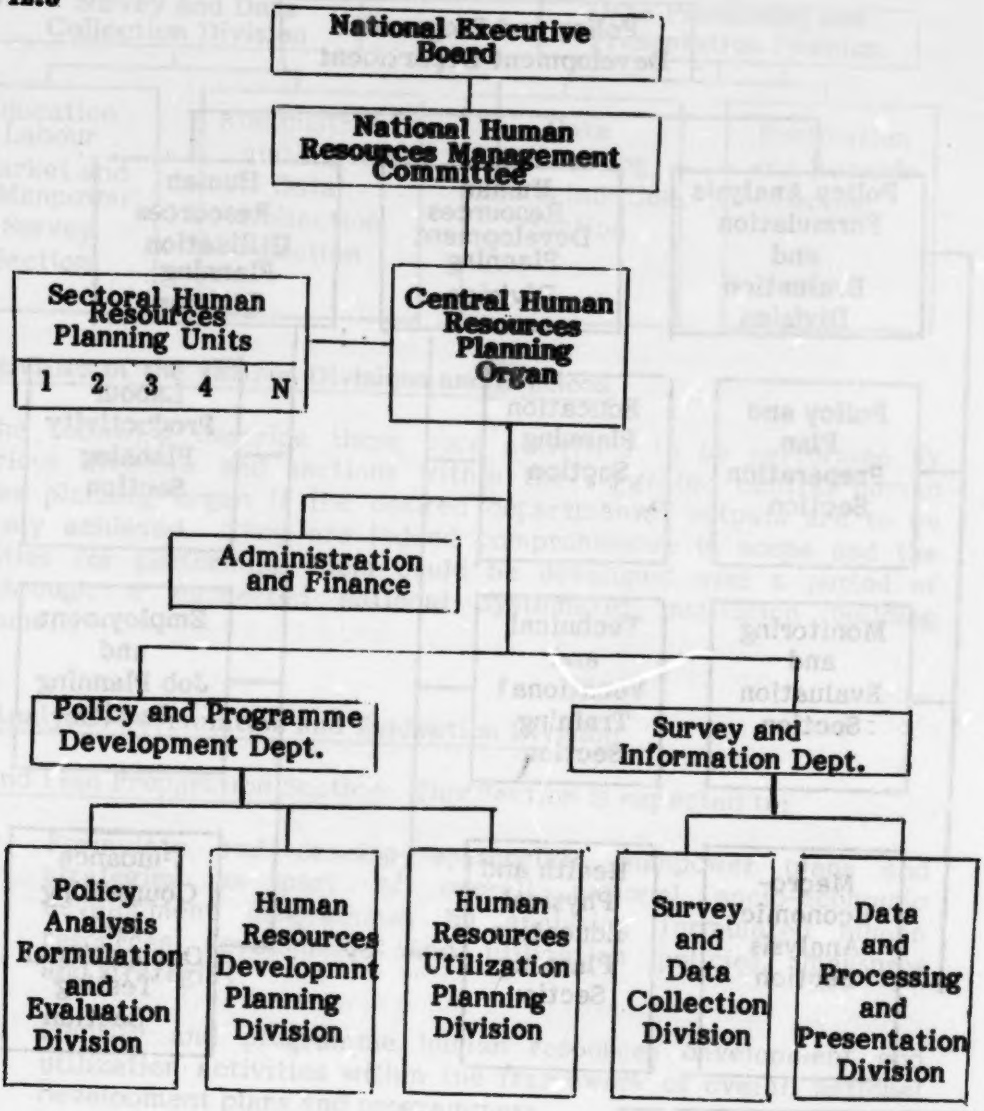
VIII. TAKING A CLOSER LOOK

(i) Suggested Organizational Structure of a Central Human Resources Planning Organ (A Specimen)

From a programme management view point, the compartmentalization of duties within an organizational structure could be designed along the lines of functional responsibilities to be performed or around objectives to be accomplished. The former seems preferable since it makes the arrangement flexible to allow for adaptation in a wholly market economy or in a mixed economy or in a centrally planned economy. Additionally, the structure should be designed as an integral part of the over-all government machinery for national development. In this connexion, two points need to be emphasized. First, the structure, staffing size, form and activities would depend on the existing national institutional framework for manpower and development planning. Secondly, the compartmentalized functions could be consolidated and performed by an autonomous agency such as a ministry for human resources; but must be supported by various sectoral manpower planning units with functions compartmentalized along similar lines.

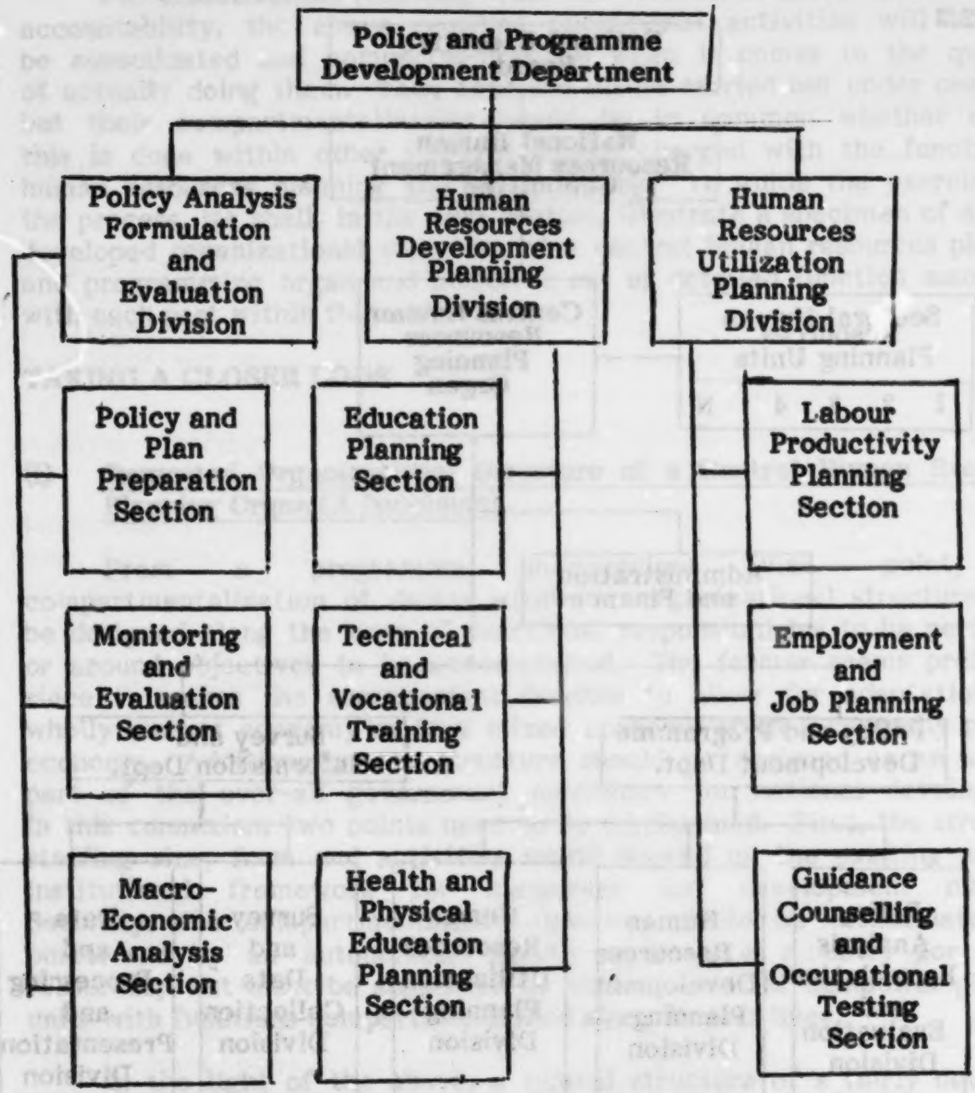
In the light of the above, a typical structure of a fairly developed central human resources planning organ, say a Ministry of human resources planning, is illustrated in figure 12.3 The full development of such a structure takes time and requires adequate staffing and financial resources. This implies that the suggested structure be regarded as a goal to be achieved towards developing a comprehensive administrative structure for human resources development and utilization planning. Furthermore, much of what is said of the illustrated structure is applicable for other sectoral manpower planning units; and hence the structure of sectoral manpower unit is not treated in this Handbook.

Fig. 12.3


National Executive Board
National Human Resources Management Committee
Sectoral Human Resources Planning Units
1 2 3 4 N
Central Human Resources Planning Organ
Administration and Finance
Policy and Programme Development Dept.
Survey and Information Dept.
Policy Analysis Formulation and Evaluation Division
Human Resources Developmnt Planning Division
Human Resources Utilization Planning Division
Survey and Data Collection Division
Data and Processing and Presentation Division

To effectively carry out their respective functions, each department needs to be sub-divided into various interrelated divisions and sections, with each section sub-divided into units as the need may arise. A suggestive structure of the two departments along with associated divisions and sections are presented in Figures 12.4 and 12.5 below.[1]

Fig. 12.4: Organization Structure of the Policy and Programme Development Department


Policy and Programme Development Department
Policy Analysis Formulation and Evaluation Division
Human Resources Development Planning Division
Human Resources Utilization Planning Division
Policy and Plan Preparation Section
Education Planning Section
Labour Productivity Planning Section
Monitoring and Evaluation Section
Technical and Vocational Training Section
Employment and Job Planning Section
Macro-Economic Analysis Section
Health and Physical Education Planning Section
Guidance Counselling and Occupational Testing Section

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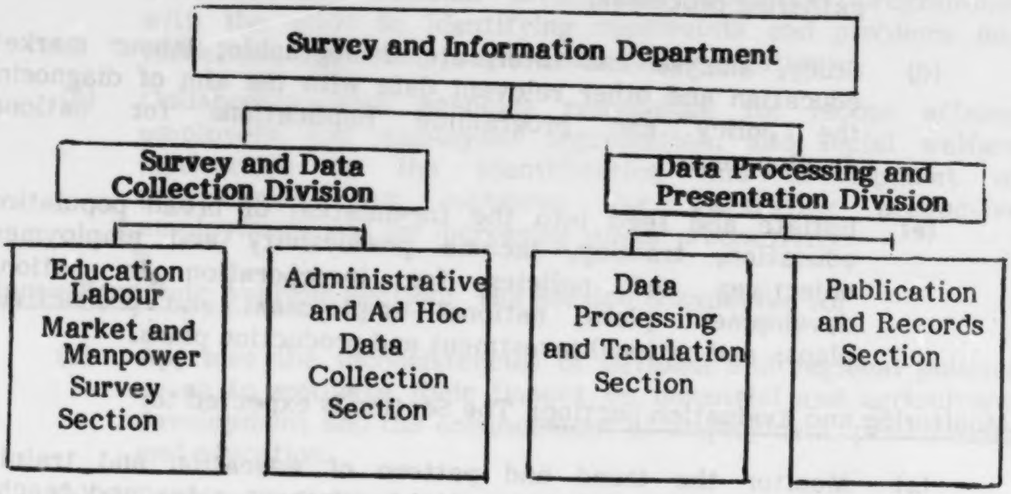
[1] As the need may arise, a number of specialized units could be created within each section of the suggested structures.

Fig. 12.5: **Organization Structure of the Surveys and Information Department**


Survey and Information Department
Survey and Data Collection Division
Data Processing and Presentation Division
Education Labour Market and Manpower Survey Section
Administrative and Ad Hoc Data Collection Section
Data Processing and Tabulation Section
Publication and Records Section

(ii) Activities of the Various Divisions and Sections

The following describe those core activities to be performed by the various divisions and sections within the suggested central human resources planning organ if the desired departmental outputs are to be adequately achieved. They are indeed comprehensive in scope and the capabilities for performing them could be developed over a period of time through a concerted national systematic institution building programme.

Policy Analysis, Formulation and Evaluation Division

Policy and Plan Preparation Section: This Section is expected to:

(a) Formulate and develop appropriate manpower plans and strategies as part of overall national socio-economic development programmes by analysing formulated human resources development and utilization policies, measures and strategies;

(b) Identify and programme human resources development and utilization activities within the framework of overall national development plans and programmes;

(c) Specify the type, scope and nature of information and data required for the formulation of manpower management policies and plans and if necessary, participate in the design of data gathering processes;

(d) Study, analyse and interprete demographic, labour market, education and other relevant data with the aim of diagnosing the policy and programme implications for national development;

(e) Initiate and feed into the formulation of broad population, education, training, income productivity and employment objectives and policies for incorporation in national development plans, national employment and productivity plans; and national investment and production plans.

Monitoring and Evaluation Section: The Section is expected to:

(a) Monitor the trend and pattern of education and training development, enrolment, outputs, dropout rates and teacher population in relation to the meeting of national manpower requirements.

(b) Study and evaluate short and long-term education and training facilities, systems and resources so as to identify problem areas and possible alternative solutions.

(c) Collaborate with ministry of education and training institutions in the identification and development of programmes and measures for the development of the required skills, knowledge, and attitudes.

(d) Study, analyse and prepare evaluation reports on incomes, employment and productivity and prepare operational guidelines for policy formulation and policy management.

(e) Review and develop proposals that may facilitate if necessary, the reformulation of policies and objectives for fostering employment generation, labour productivity, education and training.

(f) Monitor and co-ordinate programmes that affect the size and composition of the labour force and other characteristics of the labour force, the labour market and the product market.

(g) Evaluate and report on social welfare programmes, wage and incentive determination schemes, workers and employers' attitudes and national investment promotion programmes with the view to identifying constraints and problems and therefrom suggesting possible alternative solutions.

(h) Collaborate with agencies responsible for labour affairs, employers and employees organization, and social welfare institutions in the identification and development of programmes and measures for generating productive employment, and for increasing labour productivity.

Macro-Economic Analysis Section: The Section is expected to:

(a) Appraise the inconsistencies of national and regional policies so as to evaluate their impact on industrial and agricultural development and the enhancement of employment, productivity and education.

(b) Develop and adjust manpower and employment planning models and update analysis procedures.

(c) Co-ordinate and follow-up on regional and sub-regional co-operation activities on human resources planning, development and utilization.

(d) Review and analyse national and international reports, surveys, working documents and technical assistance perspectives with a view to identifying opportunities for collaboration and co-operation in manpower development and job creation.

(e) Prepare project documents and identify potential funding agencies towards strengthening overall institutional capacities for effective human resources planning and administration.

(f) Participate in the formulation and preparation of national socio-economic development objectives, policies and plans.

Human Resources Development Planning Division:

Education Planning Section: The Section is expected to:

(a) Contribute towards the development of school curriculum by collaborating with relevant institutions in:

- assessing educational objectives concerning output and outcome;
- analysing and organizing the content, design and preparation of text-books, instructional/material, training courses and educational facialities;
- developing and promoting guidelines that would improve the quality of school inputs such as curriculum, style of teaching, qualifications of teachers as well as those that would upgrade back-ground factors such as health, nutrition, and pre-school education.

(b) Identify gaps if they exist in the provision of education, and assist in the formulation of education objectives, priorities and programmes that are in conformity with national manpower and employment needs.

(c) Study, analyse and interpret for the purpose of policy formulation, the relationship between population dynamics, the economy and the society on the one hand, and the dynamics of the education system and the learning process on the other.

(d) Conduct periodic cost-effective and feasibility studies on alternative teaching and other instructional methods or on viable schemes that would ensure the expansion and equalization of educational opportunities without affecting other priority areas.

Technical and Vocational Training Planning Section: The Section is expected to:

(a) Review manpower plans, projections and profiles, production plans and manpower inventories and determine their implications for training of the national work force and forecast specific skills training requirements.

(b) Establish criteria for the selection of trainees and for the evaluation of training programmes.

(c) Collaborate with training institutions and employing agencies in the determination of training standards; certification and scope of accreditation.

(d) Study the results of research and training needs analysis so as to identify training needs and design and develop alternative training guidelines that would facilitate the formulation of training programmes and policies to meet these needs.

(e) Analyse economic factors such as training cost, the urgency with which skilled workers are needed and the profitability of training to enterpreneurs as well as institutional factors such as existing training environment and laws, the influence of labour unions and employers' associations, attitudes of employers and the nature of the labour market.

(f) Liaise with related pre- and in-service training activities and ensure programme relevance and maintenance of set standards.

(g) Assemble related information, and keep appropriate records of those on training by duration, areas of study and expected completion date; and training institutions, their related programmes and levels.

(h) Receive and co-ordinate internal and external scholarship offers and participate in the selection of candidates for the awards.

(i) Initiate and assist in the formulation and development of training programmes and institutions.

Health and Physical Education Planning Section: The Section is expected to:

(a) Study, analyse and interpret the relationships between health, skill development, workers' attitudes and workers' productivity with a view to suggesting alternative measures and strategies for taking into account the activities of those sectors in the human resources planning process.

(b) Collaborate with appropriate institutions in the planning of health, food content, sports, recreation and physical education activities.

(c) Appraise planned and on-going health, recreational and nutritional programmes of public and private institutions/enterprises and determine their impact on the potential and existing workforce.

(d) Assemble, develop and disseminate basic information on national programmes that would contribute to the physical and mental development and welbeing of the nation's human resources base.

Human Resources Utilization Division

Labour Productivity Planning Section: The Section is expected to:

(a) Collaborate with appropriate agencies on the identification and development of programmes that will improve the performance of workers through improved nutrition, better working environment, and improved regulations on workers safety, housing, health services and social and job security;

(b) Collaborate with appropriate agencies in the development of vocational training, on-the-job training and apprenticeship training programmes that are aimed at improving labour productivity;

(c) Organize and conduct periodic seminars and workshops focusing on government-employer, government-employee and employer-employee relationships and attitudes for ensuring maximum productivity and produce relevant reports to form basis for labour productivity planning and policy formulation;

(d) Co-ordinate the implementation process of adopted national employment and labour productivity policies and measures;

(e) Follow-up on evaluation reports and guidelines for enhancing the effectiveness of adopted policies and measures to ensure maximum utilization of the workforce.

Employment and Job Planning Section: The section is expected to:

(a) Develop and maintain a registry of vacancies by sectors, industry and occupation and a registry of job seekers by profession and develop and execute a plan of action for matching the two.

(b) Initiate, undertake and analyse labour market studies and make labour flow adjustments with emphasis on:

- programmes and strategies to deal with available and potential job opportunities within the economy together with the development of the corresponding skills requirements;
- factors and policies (i.e population growth rates, inadequate incomes, pricing and investment policies, unequal and inefficient distribution of investible resources, education and training policies, etc.) that

influence labour supply and labour demand in both the urban and rural labour markets;

- analysing the flexibility and ability of the economy to substitute labour and capital in relation to the mechanism governing the transfer of technology vis-a-vis its impact on increasing employment and national income opportunities.

(c) Initiate and develop measures and policies for income and employment generation and distribution, increasing labour productivity and managing non-national employees by studying and analysing the nature and trend of internal and external labour mobility; the nature, structure, operation and potential of the formal and informal sectors of the economy; and the content, institutions and policies for education and training;

(d) Develop and maintain a national system of jobs and skills classification and job standardization and a national directory of occupational titles;

(c) Participate in the formulation and preparation of national and sectoral development objectives, policies and plans in relation to employment;

(f) Define and standardize Labour Market Concepts such as labour force, employment, underemployment, unemployment etc. within the context of national realities;

(g) Analyse income, establishment and labour force survey reports and projections and develop programmes and strategies for meeting identified needs, as well as a manual on skills classification and standardization within national context;

(h) Specify the type, scope and nature of information required for employment planning and policy formulation and, if possible, participate in the design and preparation of the survey to collect the information;

(i) Analyse and interpret demographic, employment/manpower and education data with the aim to diagnosing the employment implications for national development;

(j) Formulate, develop, analyse and prepare strategies for generating employment and incomes in the formal, rural/subsistence and informal sectors of the economy and for stabilizing the disequlibria in the labour market;

(k) Liaise with national planning machineries to harmonize employment generation plans and strategies with economic development plans and strategies.

3. Guidance, Counselling and Occupational Testing: The Section is expected to:

(a) Initiate and assist in the establishment and development of vocational and career guidance and counselling services in schools and other relevant establishments and agencies;

(b) Identify elements and their inter-relationships in career development and the world of work, and assist in the preparation of appropriate manuals and/or handbooks to guide career developers and counsellors;

(c) Study national education and training systems, the forces of the labour market, activities of union and similar organizations, employment objectives and policies, the geographic and sectoral distribution of occupation and skills, and advise job-seekers on the identification of jobs and the scope for self and non-self employment;

(d) Initiate and collaborate with relevant agencies, institutions and enterprises in the establishment and application of occupational testing instruments, workers performance evaluation criteria and employees' career promotion plans;

(e) Organize and conduct periodic vocational guidance and counselling seminars and work classes for present and perspective workers in relevant agencies, institutions and enterprises.

Surveys and Data Collection Division

Manpower and Related Survey Section: The Section is expected to:

(a) Identify, in collaboration with the other sections, the nature, scope, coverage and dimensions of the required data and information;

(b) Programme, schedule and participate in, or co-ordinate the conduct of relevant manpower surveys and studies;

(c) Determine, in collaboration with the Policy and Programming Department, respective instruments and strategies for conducting manpower and education surveys and identify and mobilize the required resources and facilities for the conduct of such surveys or studies;

(d) Assemble, breakdown, review and periodically up-date available manpower, employment and education data;

(f) Design and conduct periodic income, establishment and labour force surveys with a view to:

- determining and projecting available and potential job vacancies and employment opportunities within the economy;
- determining, and projecting statistical profiles of data and information of income distribution, occupational distribution and employment distribution classified by demographic characteristics, industries, sectors and geographic location;
- establishing input/output coefficient metricies and relevant capital/labour ratios by industry and sectors inorder to provide guidelines for investment and consequently for employment creation.

Administrative and Ad hoc Data Collection and Sampling Section: The Section is expected to:

(a) Collect, collate and tabulate, on a periodic basis, data and information from employment agencies, schools, and income records kept by agencies and establishments;

(b) Liaise with relevant agencies and establishments in the design of forms for personnel and other relevant administrative record keeping;

(c) participate in the planning and processing of national population, household and agriculture censuses;

(d) construct and update appropriate sampling frames and sample designs for collecting manpower and employment data.

(e) Review and up-date techniques and methodologies for assessing, estimating and forecasting employment and manpower demand and supply conditions;

(f) In collaboration with the Policy and Programme Development Department, determine, assess and/or identify the magnitude, types and coverage of required administrative data for human resources planning, policy formulation and policy implementation.

Data Processing and Presentation Division

Data Processing and Tabulation Section: The Section is expected to:

(a) Retrieve raw data, code, tabulate and present them in accordance with specified classification and form that would facilitate manpower development and utilization planning, policy formulation and policy management;

(b) Establish, develop and operate a viable manpower development and utilization data bank and information system together with appropriate linkages with other sectoral data collection units;

(c) Determine adequacy and implications of available data in relation to the formulation and implementation of manpower development and utilization plans, indicating problem areas and advising on ways to improve the utility of the data;

(d) Develop appropriate manuals, in collaboration with the Survey and Data Collection Division, for designing, conducting and processing manpower surveys;

(e) Make projections of crude data to determine future employment and manpower supply and demand conditions.

Publicaiton and Records Section: The Section is expected to:

(a) Develop and maintain an inventory of various levels of skills, jobs and vacancies in collaboration with other relevant agencies.

(b) Edit, reproduce and publish manpower and employment plans, survey reports and other human resources data gathering and information sheets that may be produced by the various sections of the agency and other sectoral units;

(c) Develop, maintain and manage a reference Library and information centre on human resources management and other development issues.

(d) Develop and maintain in collaboration with other appropriate agencies, as inventory of total national skills (abroad and within) as well as non-national skills by occupation and profession.

IX. STAFFING REQUIREMENTS

(i) The Issue

The mere establishment of institutions as dealt with in the preceeding session, is a necessary but not a sufficient condition for the ultimate achievement of the goals of a national human resources development and utilization system. The exercise, to be complete, must be supported by the development, deployment and utilization of a core of an interdisciplinary staff to man the established institutions. To begin with, the ability of any human resources planning sub-system to effectively ensure a high level of productivity within its own activities, is a manifestation of that sub-system's ability to formulate, monitor, advise on and evaluate other sectoral manpower development and utilization policies and programmes at national levels.

The institution building implications therefore are two-fold: One, programmes for the development, recruitment, retention and promotion of human resources planning personnel should be accorded high priority within the operations and management of the entire sub-system. Two, given that manpower planning is both multi-institutional and multi-functional in its activities, a high degree of collaboration, interaction and co-ordination of activities of various professionals and technicians will be required for ensuring effective planning. Unfortunately for Africa, studies after studies have indicated that whatever little efforts made by national governments in managing their respective human resources, these efforts have been greatly constrained by the lack of a systematic approach to ensure the needed staffing priority. The cumulative impact of this deficiency is translated not only into a weak human resources planning machinery, but also into a retardation of national development.

The purpose of this section therefore is to provide an indication of the staffing needs for a comprehensive human resources planning sub-system as conceived in this Handbook. Two important points need to be made at the outset. First, appropriate personnel planning and policies, (which are not dealt with in this Handbook) need to be developed and operationalized. Secondly, the staff size for each of the suggested divisions would differ from country to country and from division to division depending upon factors such as the:

- size, composition and structure of the labour force;
- volume of work envisaged or to be performed;
- efficiency level of other ministerial units;
- availability of adequate financial and human resources;
- production and political structures of the country involved.

(ii) Staff Requirements by Functions to be Performed

Whatever the case, the following should constitute the core of professionals from which a team could evolve if the functions as described in the last section are to be performed adequately. The staffing requirements as listed below are identified and grouped in accordance with functions to be performed and not in accordance with the administrative departments and sections to which they belong.

For Managing the Central Human Resources Planning Organ

The technical part of the Office should be managed by an officer who must be a qualified and experienced human resources or development planner with considerable administrative and/or public administration and management experience. He/she must have the requisite status and authority to be able to relate effectively with other Heads of departments and organizations in both the public and private sectors.

In the absence of a human resources or a development planner, the officer could be either one of the following, who should have had an appreciable level of training in manpower or employment planning: Development Economist, Development Administrator, Sociologist, Demographer, and Labour or Manpower Statistician. The Officer should be assisted by a personnel manager and a financial manager.

For Collection, Processing and Presentation of Data

Senior Professional Officers should have at least an honours university degree in their field of specialization. For sub-professional technical staff, a minimum of an advanced applied statistical training diploma should be required. Accordingly, the team should be composed of the following:

Professional Staff

- Applied and Mathematical Statisticians
- Demographers
- System Analysts and/or Computer Programmers
- Sociologists
- Macro-Economists
- Labour Statisticians

Sub-Professional/Technical Staff

- Statistical Assistants
- Ad-hoc Field Supervisors
- Key-punch Operators.

For Analysis, Policy Determination and Programming

Senior Officers should have at least an honours university degree in:

- Industrial or Labour or Manpower Economics; Vocational Educational and Training; Sociology; Labour Union and/or Public Administration; Vocational Career Guidance and Education Counselling; Development Planning or Economics.

Consequently, the team should be composed of the following:

- Labour, Manpower and/or Industrial Economists
- Vocational Training and/or Development Economists
- Sociologists and/or Vocational Guidance, and Educational and Career Counsellors
- Development Administrators
- Economic Development Planners.

For Monitoring and Evaluating Policies and Programmes

Officers must have at least an honours university degree in one of the following fields: Manpower Economics; Economic Planning and Development; Public Administration and Management; Education; and Sociology. Particularly, they must develop capacities and capabilities for project development, project monitoring, and project evaluation and for making recommendations for policy guidelines. Accordingly the team should be composed of:

- Economic Development Planners
- Public Administrators and Managers
- Education and Vocational Training Planners
- Sociologists
- Labour Economists.

The above identified professional staff could be distributed within the various divisions in such a way so as to derive maximum results. A specimen of such distribution is reflected in the following table:

Staffing Pattern of a Central Human Resources Planning by Operational Division

Professional Staff Operational Division	Survey and Data Collection Division	Data Processing Presentation Division	Policy Analysis Formulation and Evaluation Division	Human Resources Development Planning Division	Human Resources Utilization Planning Division
Applied and Mathematical Statisticians	X	X			
Demographers	X	X	X	X	x
System Analysts		X			
Computer Programmers		X			
Sociologists			X	X	X
Macro Economists			X		
Statistical Assistants	X	X			
Manpower Economists			X	X	X
Labour Economists			X	X	X
Educational and Vocational Training Planners			X	X	X
Public Administrators and Managers			X	X	X
Economic Development Planners			X	X	x

X. CONCLUSION AND SOME DISCUSSION QUESTIONS

One of the supporting cornerstones for the enhancement of economic and social transformation in Africa lies in the establishment and operation of an effective human resources management process. Such a process cannot and should not be an end within itself. It must be tuned to designing, implementing and monitoring effective policies, programmes and strategies that would allow the nation's potential and actual human stock to make the greatest contribution to national development. Three subsystems need to interact. The human resources planning subsystem, the human resources development subsystem, and the human resources utilization subsystem. Each of these would require certain institutional arrangements within which to carry out assigned duties in a systematic manner.

We have in this Chapter considered those institutional and staffing arrangements required by the human resources planning subsystem. Three major points were inferred. First, inter-sectoral linkages between the human resources planning subsystem and other sector planning subsystems will have to be created and strengthened from time to time. Secondly, the need for a central human resources management organ cannot be overemphasized and therefore should be given serious and prompt attention. Thirdly, the development of a comprehensive human resources planning machinery with adequate staffing and clearly defined functions and activities is a dynamic process and involves tremendous allocation of resources and time. Certainly, a great deal of thought has been given to each of these three key issues by many African governments. No doubt different views have been expressed particularly with regards the structure, location and function of the machinery and the types of linkages that should be developed. Consistently, the debates keep focusing around a number of questions. Among these are the following two fundamental questions:

(i) Should there be a Ministry responsible solely for human resources management and if so, what should be its relationship with existing Ministries that are responsible for labour, social affairs, education, training, public service employment and development?

(ii) Should the functions of human resources management be decentralized, and if so, what needs to be done and how to go about doing that?

These are difficult questions; but for which answers must be found. It is often argued that the human resource base is the prime mover and beneficiary of development and as such, its quality, stock, flow and transformation should be systematically planned. This can be done with effectiveness if, and only if, the institutional capabilities are properly designed, put in place and operated. This leaves no or little choice for policy makers in Africa to bring the debate to its logical conclusion.

Discussion Question:

What answers would you give to the two questions raised above? Why or why not?

ANNEX TO PART FOUR

PROGRAMMES DEVELOPED BY ECA FOR ASSISTING MEMBER STATES IN IMPLEMENTING HUMAN RESOURCES PLANNING, DEVELOPMENT AND UTILIZATION IN AFRICA

(i) Programme Scope

The objective of ECA's programmes in human resources planning, development and utilization for Africa is to build or strengthen national and regional capabilities for the harmonization of policies, strategies and programmes for efficient planning, development and utilization of African human resources. This task is carried out, more or less, by every substantive division in ECA in view of the fact that human resources management cuts across all development sectors. However, the primary responsibility for coordinating these activities rests within the Division of Public Administration, Human Resources and Social Development.

The programmes within ECA concentrate on a number of activities: (i) advisory services, upon request, are provided to member State Governments on various problems affecting the planning. development or utilization of human resources; (ii) desk and field studies are undertaken by ECA on issues touching on, and problems affecting human resources with a view to clearly identifying these problems and proposing solutions to them; (iii) national, subregional or regional workshops, seminars, are conferences designed to encourage the exchange of ideas and information on the formulation and harmonization of policies, strategies and programmes on human resources; (iv) financial and other resources are mobilized and managed to support fellowships programmes as a supplementary effort in the human resource development programmes of member States; (v) to optimize the use of existing institutions and ensure efficiency in the use of resources and programme delivery, ECA advises on and promotes institution-building at the regional, subregional and national levels; (vi) a large amount of training activity is undertaken in all areas of development. They cover a wide range of fields which include training of planners, statisticians, demographers, educationists and trainers; (vii) ECA publishes a good number of technical papers for use by African officials and academicians for self-development and upgrading.

(ii) Relevance of Programme

The economic implications of Africa achieving "rapid self-reliance and self-sustaining development and growth" as called for by the Lagos Plan of Action are three fold:

(a) a substantial portion of those goods and services demanded by Africa should, by the year 2000, be produced and distributed by Africans themselves within Africa;

(b) the rate of productivity change should not only show an increase, but that this increase should be rapid and self-sustaining and

(c) appropriate economic environment and development policies would have to be ensured within the continent so as to allow for the efficient mobilization and movement of goods, labour and capital across national borders.

These objectives require that the skills and knowledge base in Africa be strengthened and developed to levels that would permit Africans to be effective in transforming their natural resources for industrialization purposes and to be able to provide the goods and services that would raise the living conditions of the African people. This suggest among other things, that highly trained African scientists, engineers, administrators, managers, innovators, entrepreneurs, etc. in all fields and for all sectors will have to be planned for, produced, mobilized, supported and fully utilized. This calls for the establishment of institutions and requisite policies, strategies and programmes.

Thus Africa should be prepared, in terms of establishing and operating adequate human resources management systems and institutions, if the development challenges, which lie within and beyond the recovery period, are to be effectively dealt with. Embeded in these challenges is the need to transform the economic and social structures within the region which no doubt, would require the existence of effective human resources management systems and institutions that are integrated within overall national development systems and institutions.

(iii) Past, Present and Projected Work Programmes and Their Objectives

The past, present and the projected programmes of ECA together with their objectives, have undergone very little changes other than minor adjustments to accommodate new developments. The work programme in human resources is now, as in the past, divided into: Education and Training for Development, Manpower and Employment Planning and Policies, Public Administration and Management, Budget and Finance Management and Fellowships. The general objectives of the ECA as regards these sub-programmes are as follows:

(a) Education and Training:

To assist member States in their manpower training through reappraisal and subsequent development of education and training policies and programmes.

(b) Manpower and Employment Planning and Policies

To formulate and promote a comprehensive strategy for the development and operation of effective human resources and employment planning system including the training of personnel and the improvement of data base for human resources development and utilization planning.

(c) Public Administration and Management

To assist member States in developing effective and efficient institutional, administrative and managerial capabilities for development administration. Accordingly, to review governmental policies and measures, administrative structures and institutional arrangements for development administration as well as provide guidelines for their reform and strengthening and for the efficient management and operation of public enterprises and institutions.

(d) Budget and Financial Management

To assist member States in developing effective public finance management systems and capability, and in particular promote improvements in budgetary management and financial control, tax policy, administration and government accounting and auditing.

(iv) Programme Thrust

Together these sub-programmes contain over twenty three programme elements the details of which are summarized below:

Education and Training

1. Reorientation of education policies, programmes and practices;
2. Non-formal education for integrated rural development;
3. Occupational testing for career planning and programming for guidance and counselling;
4. Policies and capability development for effective co-ordination of training and career planning functions;
5. Training/educational institution "building";
6. Grants and fellowships administration.

Manpower and Employment Planning and Policies

1. Institutional capability development for policy formulation and programme co-ordination in manpower planning;
2. Manpower and employment data bank and information systems development;
3. Institutional capability development for employment policy formulation and productive use of human resources;
4. Allocation and distribution of human resources for productive and maximum utilization;
5. Productivity planning for generation of employment opportunities;

Public Administration and Management

1. Promotion of effective central management and direction of African public services especially through the development of internal consultancy capability;

2. Effective organization and management of institutions for rural development;
3. Promotion of administrative reform measures;
4. Strengthening of management capabilities in public enterprises and institutions.

Budget and Financial Management

1. Improvement in budgeting systems and financial management in government;
2. Reforming of tax systems and policies and improvement in tax administration.

(v) Mobilization of Financial Resources, Difficulties Encountered and Suggestions for Action

Financial resources for the implementation of ECA's human resources management programmes in Africa are mobilized in one of the following ways:

1. Through direct budgetary allocation form ECA's regular budget
2. Through extra-budgetary financing resulting from the acceptance of ECA project proposals by multilateral and bilateral donors;
3. Through joint project implementation activities between ECA and other interested inter-regional, international or national organizations.

Major difficulties encountered in this process are threefold:

1. The recent cutback in development financing assistance;
2. The diffusion of effort and proliferation of programmes and activities among agencies which inevitably cause the limited available financial resources to be thinly spread;
3. The relatively low priority accorded human resources sector particularly at national levels when it comes to financial resource allocation among sectors.

A logical proposal for increasing the flow of financial resources for the management of human resources in Africa is the initiation of programmes that would minimize the three difficulties mentioned above. This calls for more financial assistance to be made available to human resources development activities, a more effective co-ordination of efforts in all human resources fields, and according the required priority to human resources management.

(vi) Experience with Member States in Programme Implementation

Though encouraging over the last few years, much effort needs to be made at national level to better formulate and implement policies for human resources planning, development and utilization. The crucial bottleneck for policy implementation has been one of co-ordination and programme evaluation. The reason for this differs from country to country; but the most common cause can be attributed to the lack of strong human resources planning and management capabilities and the shortage of financial and material resources for human resources planning, development and utilization at both national and subregional levels.

(vii) Existing and Projected Regional Institutional Machineries

As regional institutional arrangements for the promotion of human resources management in Africa, African governments with assistance from ECA, have developed the following:

(a) Conference

A Conference of Ministers Responsible for Human Resources Planning, Development and Utilization, comprising all ECA member States, was established by the ECA Conference of Ministers' resolution 389(XV) in response to the OAU Monrovia Declaration of African Heads of State and Government. The Conference is composed of a Conference of Ministers as the highest policy making body, Ministerial Follow-up Committee of Ten and a Technical Preparatory Committee of official. The major objective of the conference is to co-ordinate and harmonize human resources policies and programmes at the regional level in Africa.

There is also the Conference of Vice-Chancellors Rectors, and Presidents of Institutions of Higher Learning in Africa. The major objective is to co-ordinate activities and bring into sharp focus the roles to be played by these institutions in the development of Africa. An Association of African Trainers and Development has also been formed and hold periodic conferences to harmonize activities, foster co-operation and review new techniques.

(b) Centres

In accordance with Commission Resoultions, ECA has over the years established the following institutions with primary training responsibilities:

1. African Regional Centre for Technology (ARCT), Dakar (Senegal);
2. Regional Centre for Training in Aerial Surveys (RECTAS), Ile-Ife (Nigeria);
3. Eastern and Southern African Mineral Resources Development Centre (ESAMRDC), Dodoma (United Republic of Tanzania);
4. Institut de formation et de recherche demographice (IFORD), Yaounde (United Republic of Cameroon);
5. The United Nations Institute for the Prevention of Crime and the Treatment of Offenders; Kampala (Uganda).
6. African Centre for Applied Research and Training in Social Development (ACARTSOD), Tripoli (Libyan Arab Jamahiriya);
7. Office de l'Energie Solaire (ONERSOL), Niamey (Niger);
8. African Institute for Economic Development Planning (IDEP), Dakar (Senegal);
9. African Centre for Monetary Studies (ACMS), Dakar (Senegal);
10. Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS), Nairobi (Kenya);
11. Regional Institute for Population Studies (RIPS), Accra (Ghana);

12. **African Institute of Higher Technical Training and Research (AIHTTR) Nairobi (Kenya)**

(c) Offices

Subregional offices have been established to execute major ECA programmes including those related to human resource planning, development and utilization. These are the ECA Multinational Programming and Operational Centres (MULPOC). In existence are the following:

- **Lusaka MULPOC for Southern and Eastern Africa**
- **Tangier MULPOC for North Africa**
- **Niamey MULPOC for West Africa**
- **Gisenyi MULPOC for South-Central Africa and**
- **Yaounde MULPOC for Central Africa**

(viii) Problems Encountered in Programme Implementation

These problems cannot be dealt with exhaustively in this Annex. Suffice it only to highlight a few of the major ones:

(a) Un-co-ordinated and sometimes conflicting programme activities offered by agencies to member States. This situation confuses member States and sometimes results in lack of enthusiasm on their part;

(b) A tendency on the part of agencies to compete with each other over programme implementation and provision of assistance to governments;

(c) Inadequate financial resources to meet national needs in assistance to develop human resources;

(d) Inadequacy of national data and information on human resources which seriously constrains programme formulation and implementation;

(e) Absence of a political will to translate human resources planning, development and utilization commitments into concrete action.

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